MITSUBISHI ELECTRIC

SPLIT-TYPE AIR CONDITIONERS

Changes for the Better

Revision E:
- SPECIFICATION has been modified.

Please void OB405 REVISED EDITION-D.

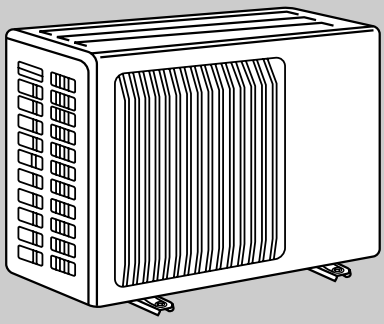
OUTDOOR UNIT
SERVICE MANUAL

No. OB405
REVISED EDITION-E

Models

MU-A18ND-S1
MU-A18ND-S2
MU-A24ND-S1
MU-A24ND-S2
MU-A30ND-S1
MU-A30ND-S2

Indoor unit service manual
MS-A· ND Series (OB404)



MU-A18ND

CONTENTS

1. TECHNICAL CHANGES ····2
2. PART NAMES AND FUNCTIONS····3
3. SPECIFICATION····3
4. OUTLINES AND DIMENSIONS ····4
5. WIRING DIAGRAM ····6
6. REFRIGERANT SYSTEM DIAGRAM····8
7. PERFORMANCE CURVES····10
8. TROUBLESHOOTING····12
9. DISASSEMBLY INSTRUCTIONS ····21
10. PARTS LIST····27
11. RoHS PARTS LIST····30

NOTE:
- This service manual describes technical data of the outdoor units.
- RoHS compliant products have <G> mark on the spec name plate. For servicing of RoHS compliant products, refer to the RoHS Parts List.

Mr.SLIM™

Revision A:
- Check of solenoid valve coil has been partially modified.

Revision B:
- MU-A24ND -S2 has been added.

Revision C:
- MU-A18ND -S2 has been added.

Revision D:
- MU-A30ND -S2 has been added.

Revision E:
- SPECIFICATION has been modified.

1 TECHNICAL CHANGES

※ : change

Frequency	60Hz	
New Model	MU-A18ND -S1	
Old Model	MU-18TN -S1	MU-18SN -C1
Compressor: NH30VCD → RH247NRAT	※	
Compressor: RH277NHD → RH247NRAT		※
Electricity receiving unit: Indoor unit → Outdoor unit	※	※
Gas pipe diameter: ϕ15.88 → ϕ12.7	※	※
Rated voltage: 220V → 220-230V	※	※

Frequency	60Hz	
New Model	MU-A24ND -S1	
Old Model	MU-24TN -S1	MU-24SN -C2
Outdoor unit:Unit size:W850mm×H605mm×D290mm → W840mm×H850mm×D330mm		※
Outdoor unit:Unit size:W870mm×H850mm×D295mm → W840mm×H850mm×D330mm	※	
Compressor: NH38NBD → PH33NPBT	※	※
Electricity receiving unit: Indoor unit → Outdoor unit	※	※
Liquid refrigerant pipe diameter: ϕ9.52 → ϕ6.35	※	※
Rated voltage: 220V → 220-230V	※	※

MU-A30ND -S1
New model

MU-A18ND -S1 ➔ MU-A18ND -S2
- Valve cover has been added.

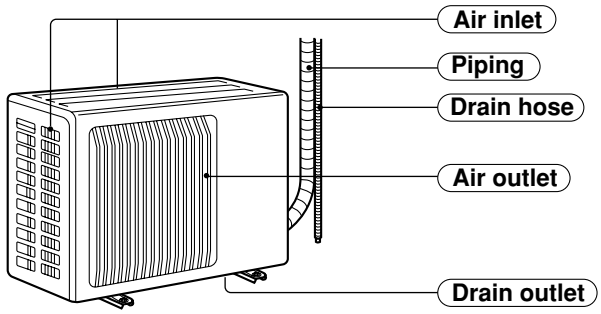
MU-A24ND -S1 ➔ MU-A24ND -S2
- Compressor contactor has been added.

MU-A30ND -S1 ➔ MU-A30ND -S2
- Solenoid valve and solenoid valve coil have been changed.

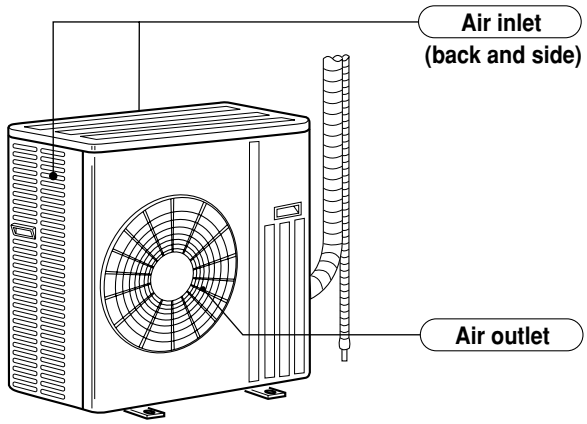
2 PART NAMES AND FUNCTIONS

OUTDOOR UNIT

MU-A18ND



MU-A24ND MU-A30ND



3 SPECIFICATION

Outdoor model			MU-A18ND		MU-A24ND		MU-A30ND	
Function			Cooling					
Power supply			Single phase 220-230V, 60Hz					
			ISO 5151	SSA 385	ISO 5151	SSA 385	ISO 5151	SSA 385
Capacity	Capacity	kW	5.10	4.40	6.6	5.9	8.1	6.6
	Dehumidification	ℓ /h	2.3	1.8	3.2	2.7	4.3	3.2
	Air flow (High/Low)	m³ /h	2,480		2,880		2,880/1,380	
Electrical data	Power outlet	A	15		15(S1)	20(S2)	25	
	Running current (Total)	A	8.52	9.94	10.54	12.42	14.25	17.52
	Power input (Total)	W	1,800	2,100	2,250	2,650	3,010	3,700
	Power factor (Total)	%	96-92	96	97-93	97	96-92	96
	Starting current (Total)	A	40		58		78	
	Compressor motor current	A	7.60	9.02	9.50	11.39	13.22	16.49
	Fan motor current	A	0.55		0.66		0.66	
Coefficient of performance (C.O.P) (Total)			2.83	2.10	2.93	2.23	2.69	1.78
Compressor	Model		RH247NRAT		PH33NPBT		NH44NAVT	
	Output	W	1,200		1,500		2,000	
	Winding resistance (at 20℃)	Ω	C-R 1.43 C-S 2.06		C-R 0.84 C-S 2.09		C-R 0.62 C-S 1.40	
Fan motor	Model		RA6V60-MA		RA6N75-BA		RA6N75-AA	
	Winding resistance (at 20℃)	Ω	WHT-BLK 71.2 BLK-RED 89.3		WHT-BLK 65.0 BLK-RED 65.4		WHT-BLK 64.2 BLK-YLW 32.9 YLW-RED 32.7	
	Dimensions W×H×D	mm	850×605×290		840×850×330			
	Weight	kg	44		67		76	
Special remarks	Sound level (High/Low)	dB	54		54		55/51	
	Fan speed (High/Low)	rpm	945		790		790/490	
	Fan speed regulator		1		1		2	
	Refrigerant filling capacity (R22)	kg	1.40		2.20		2.40	
	Refrigeration oil (Model)	cc	520 (MS56)		900 (MS32N1)		1,300 (MS32N1)	

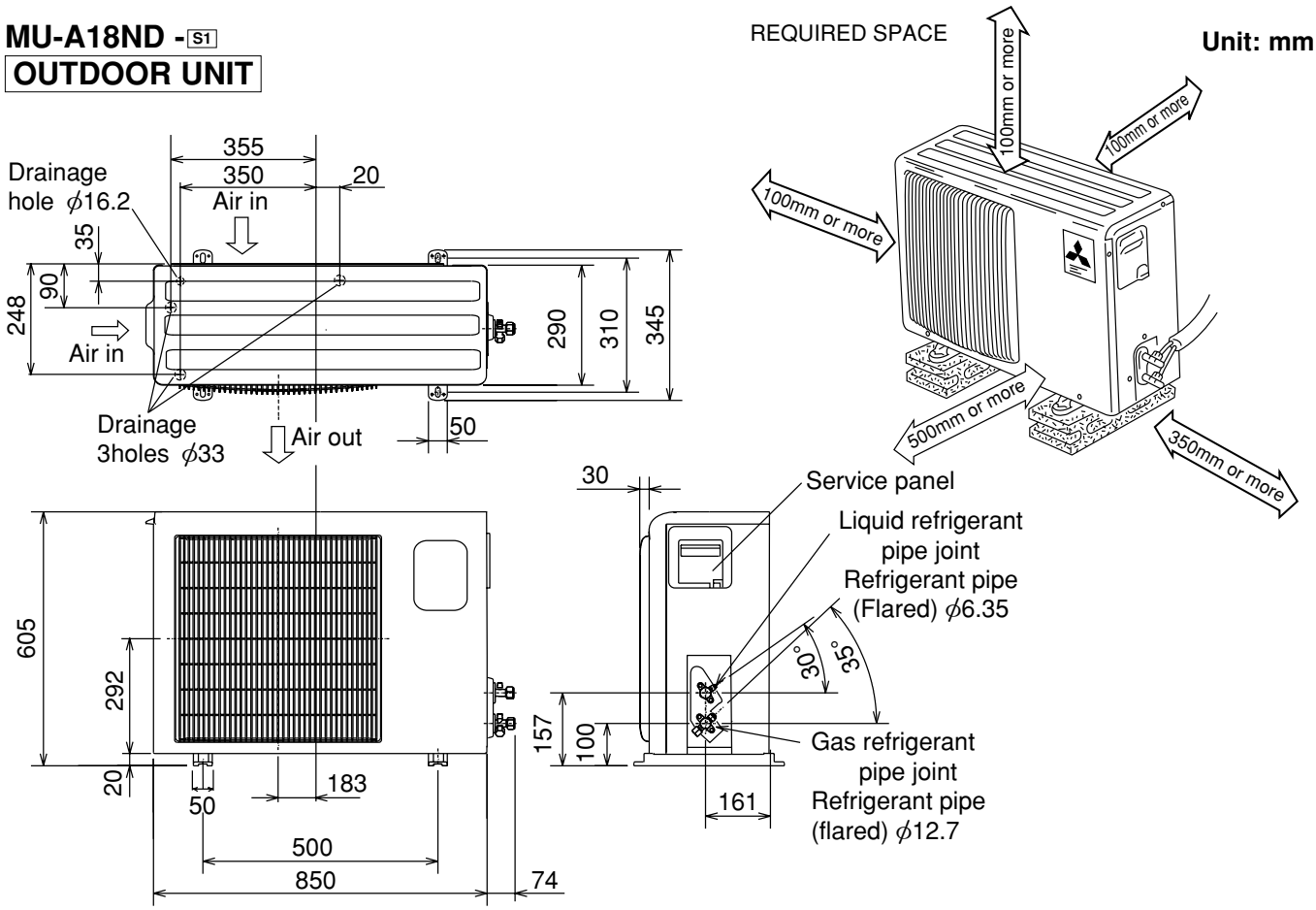
NOTE: Test conditions are based on ISO 5151 / SSA 385
Cooling : Indoor DB27°C WB19°C / DB29°C WB19°C
Outdoor DB35°C WB24°C / DB46°C WB24°C
Indoor-Outdoor piping length: 5 / 7.5 m

4 OUTLINES AND DIMENSIONS

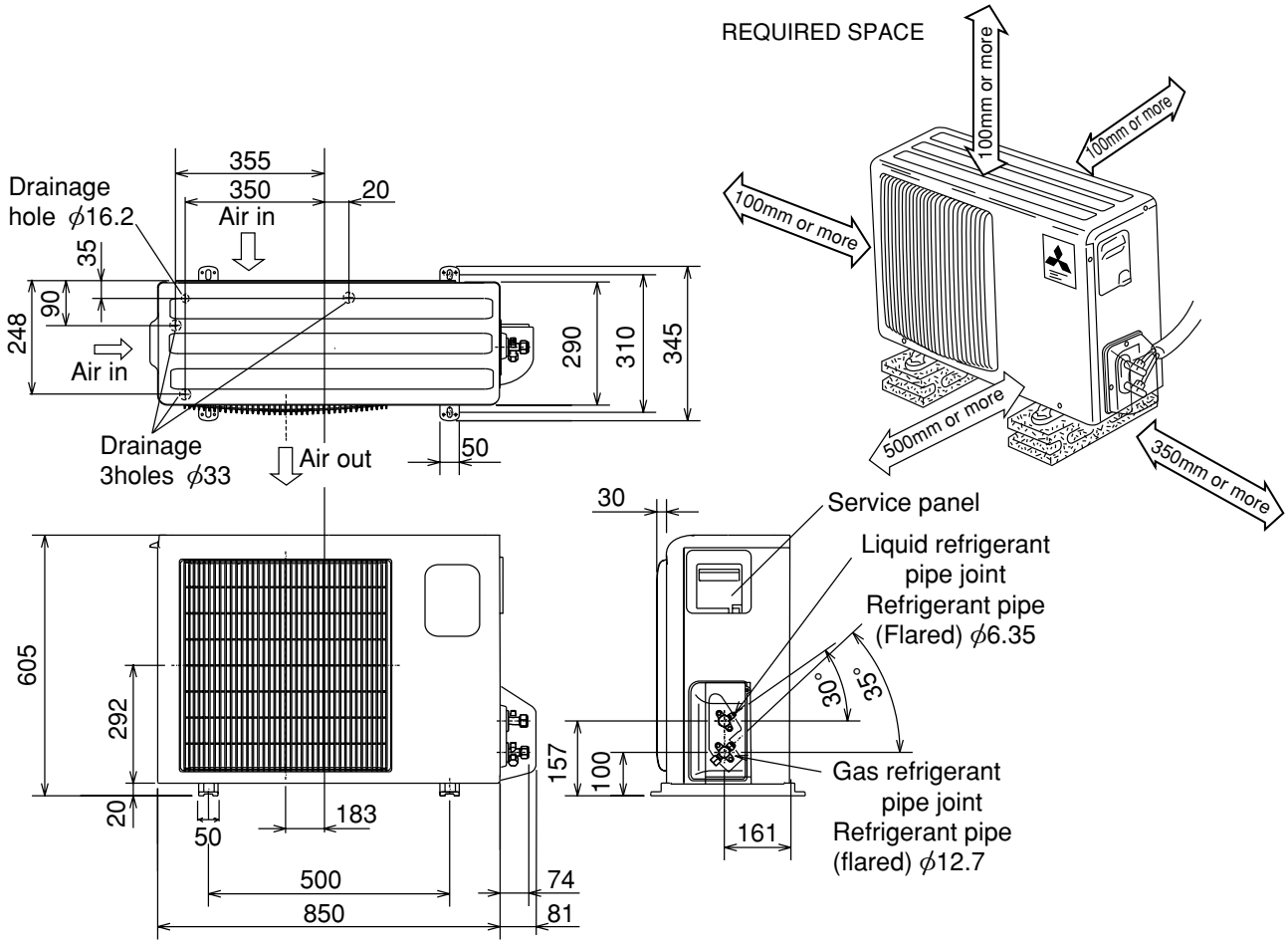
MU-A18ND - S1

OUTDOOR UNIT

Unit: mm

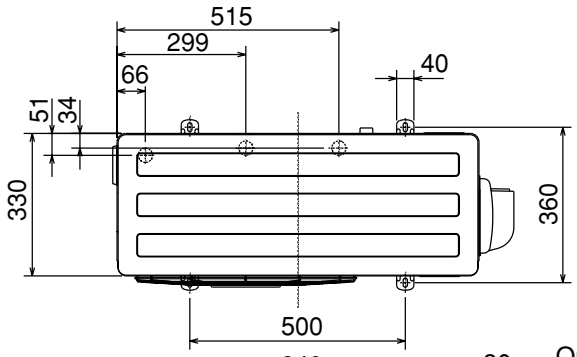


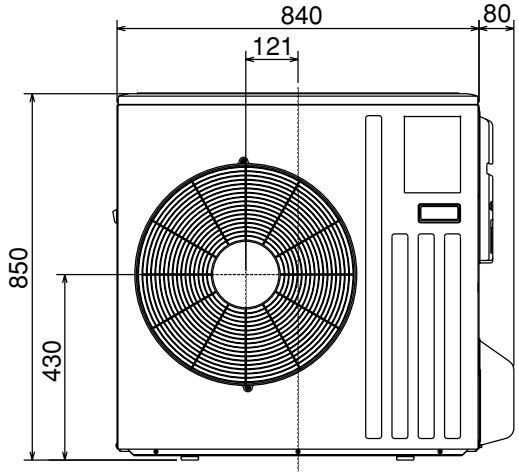
MU-A18ND - S2

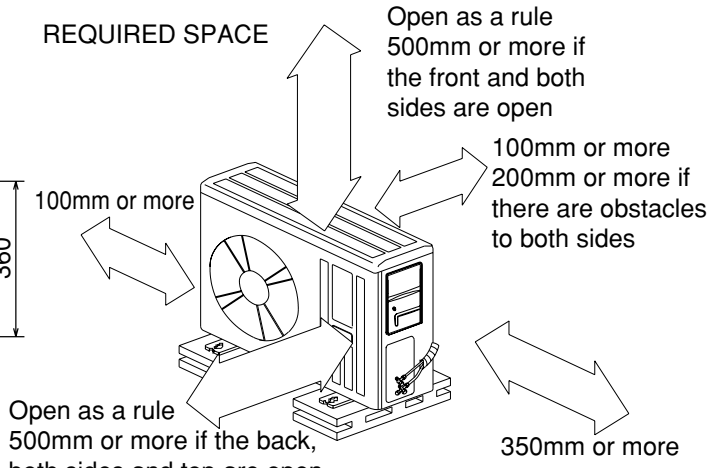


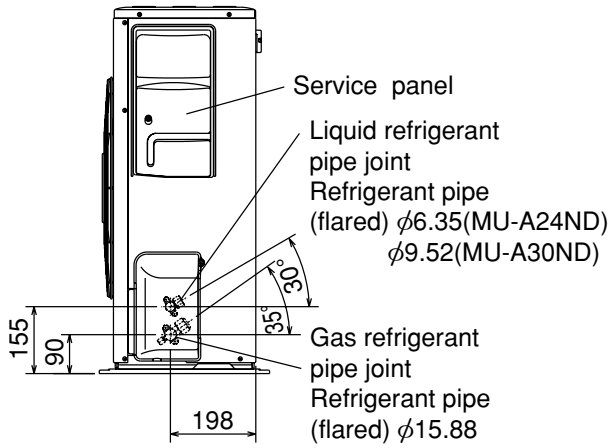
MU-A24ND MU-A30ND

OUTDOOR UNIT





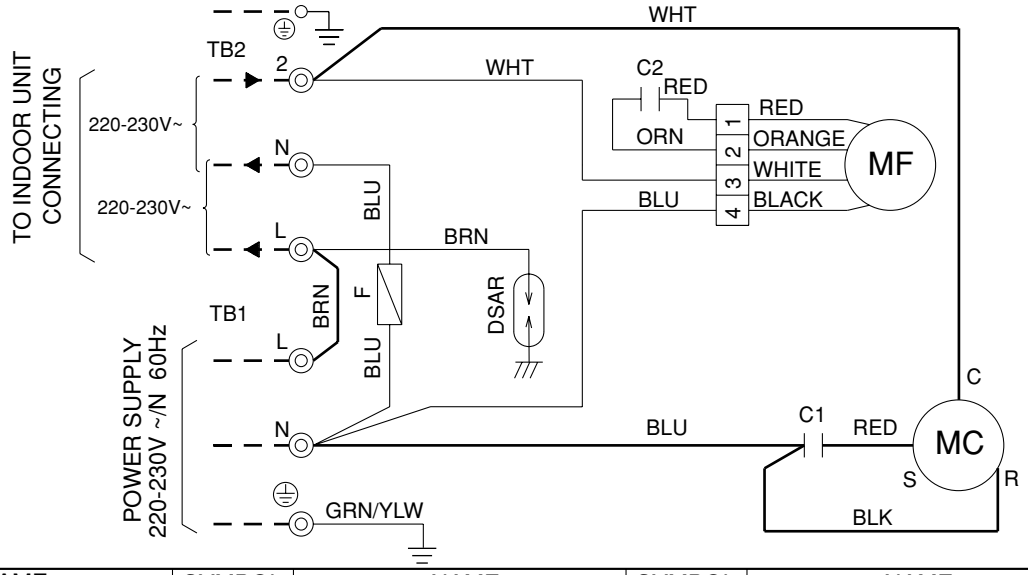




5 WIRING DIAGRAM

MU-A18ND

OUTDOOR UNIT

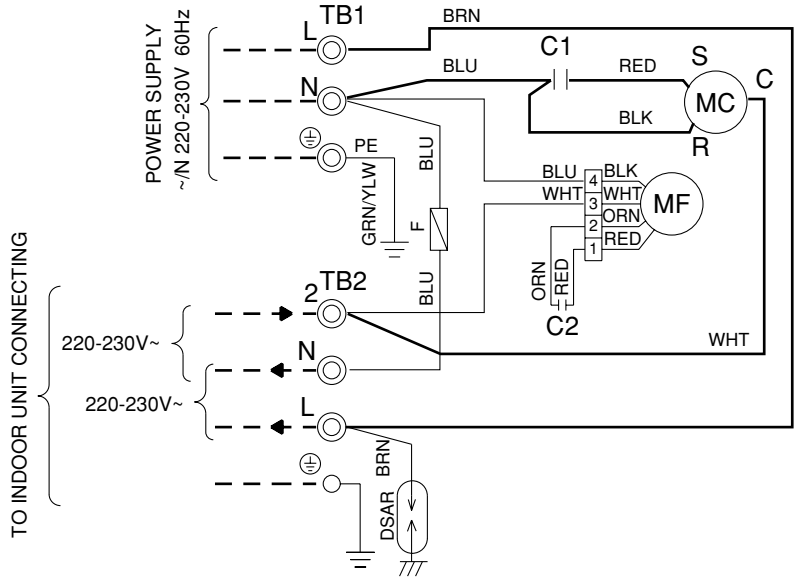


SYMBOL	NAME	SYMBOL	NAME	SYMBOL	NAME
C1	COMPRESSOR CAPACITOR	F	FUSE (3.15A)	TB1	TERMINAL BLOCK
C2	OUTDOOR FAN CAPACITOR	MC	COMPRESSOR(INNER PROTECTOR)	TB2	TERMINAL BLOCK
DSAR	SURGE ABSORBER	MF	OUTDOOR FAN MOTOR(INNER PROTECTOR)		

NOTES: 1.About the indoor side electric wiring refer to the indoor unit electric wiring diagram for servicing.
2.Use copper conductors only (For field wiring).
3.Symbols below indicate.
◎ : Terminal block, □□□□ : Connector

MU-A24ND-S1

OUTDOOR UNIT

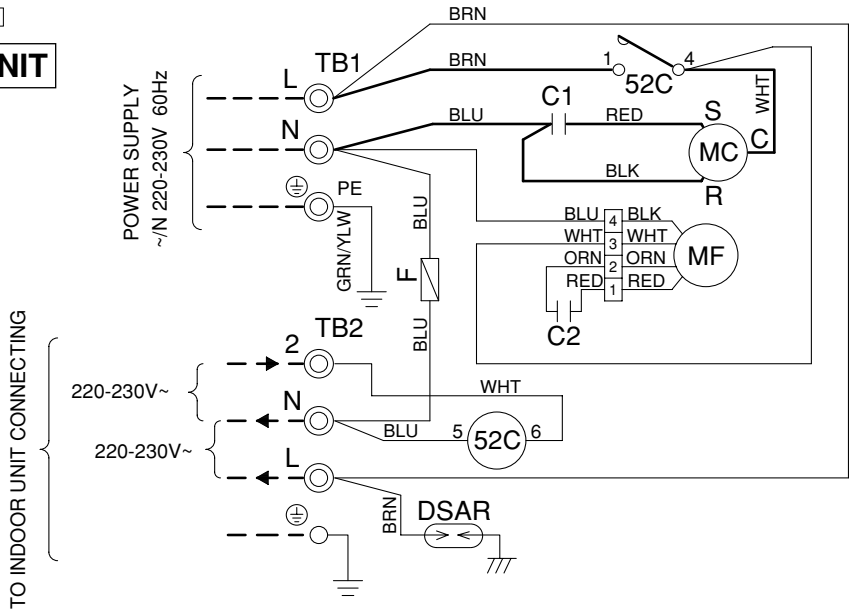


SYMBOL	NAME	SYMBOL	NAME	SYMBOL	NAME
C1	COMPRESSOR CAPACITOR	F	FUSE(3.15A)	TB1	TERMINAL BLOCK
C2	OUTDOOR FAN CAPACITOR	MC	COMPRESSOR(INNER PROTECTOR)	TB2	TERMINAL BLOCK
DSAR	SURGE ABSORBER	MF	OUTDOOR FAN MOTOR(INNER PROTECTOR)		

NOTES: 1.Use copper conductors only (For field wiring).
2.Since the indoor and outdoor unit connecting wires have polarity, connect them according to the numbers (2,N,L).
3.Symbols below indicate.
◎ : Terminal block, □□□□ : Connector

MU-A24ND-S2

OUTDOOR UNIT

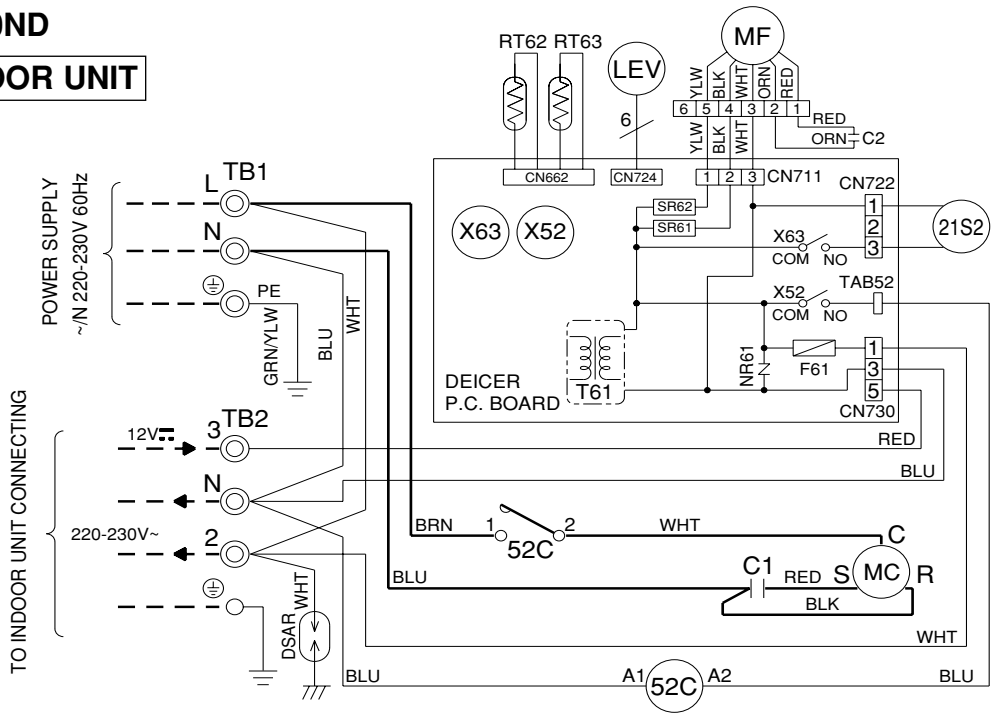


SYMBOL	NAME	SYMBOL	NAME	SYMBOL	NAME
C1	COMPRESSOR CAPACITOR	F	FUSE(3.15A)	TB1	TERMINAL BLOCK
C2	OUTDOOR FAN CAPACITOR	MC	COMPRESSOR(INNER PROTECTOR)	TB2	TERMINAL BLOCK
DSAR	SURGE ABSORBER	MF	OUTDOOR FAN MOTOR(INNER PROTECTOR)	52C	COMPRESSOR CONTACTOR

NOTES: 1.Use copper conductors only (For field wiring).
2.Since the indoor and outdoor unit connecting wires have polarity, connect them according to the numbers (2,N,L).
3.Symbols below indicate.
◎ : Terminal block, □□□□ : Connector

MU-A30ND

OUTDOOR UNIT



SYMBOL	NAME	SYMBOL	NAME	SYMBOL	NAME
C1	COMPRESSOR CAPACITOR	NR61	VARISTOR	T61	TRANSFORMER
C2	OUTDOOR FAN CAPACITOR	RT62	DISCHARGE TEMPERATURE THERMISTOR	X52	CONTACTOR
DSAR	SURGE ABSORBER	RT63	AMBIENT TEMPERATURE THERMISTOR	X63	SOLENOID VALVE COIL RELAY
F61	FUSE(3.15A)	SR61	SOLID STATE RELAY	21S2	SOLENOID VALVE COIL
LEV	EXPANSION VALVE COIL	SR62	SOLID STATE RELAY	52C	COMPRESSOR CONTACTOR
MC	COMPRESSOR(INNER PROTECTOR)	TB1	TERMINAL BLOCK		
MF	OUTDOOR FAN MOTOR(INNER PROTECTOR)	TB2	TERMINAL BLOCK		

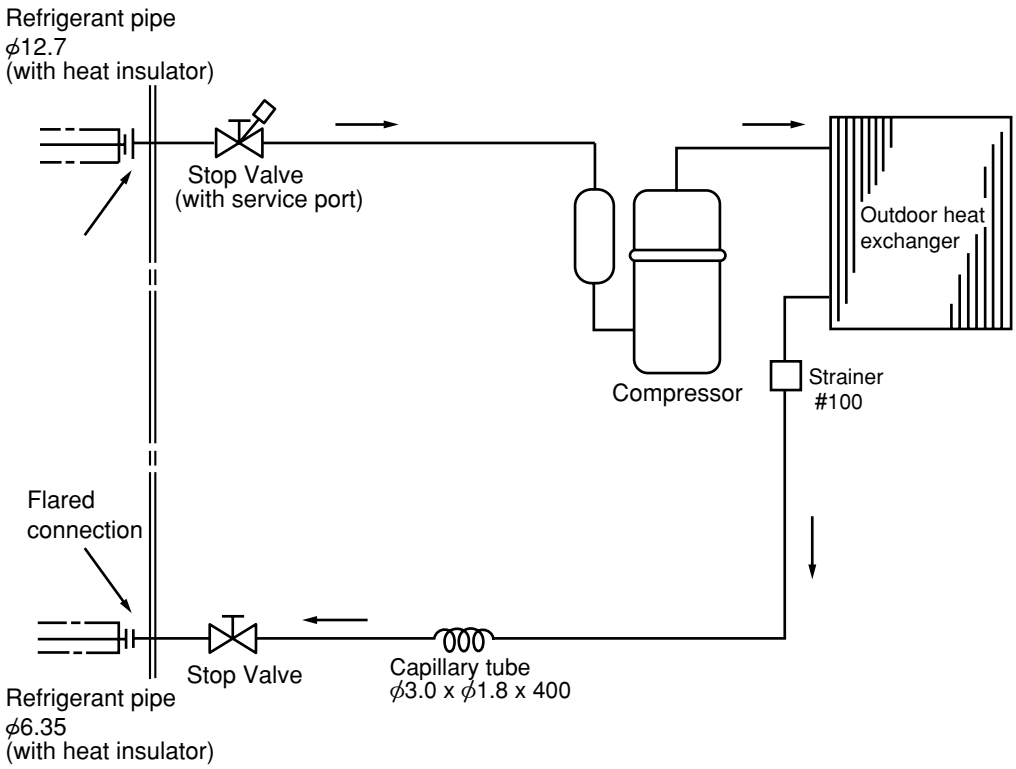
NOTES: 1.Use copper conductors only (For field wiring).
2.Since the indoor and outdoor unit connecting wires have polarity, connect them according to the numbers (3,N,2).
3.Symbols below indicate.
◎ : Terminal block, □□□□ : Connector

6 REFRIGERANT SYSTEM DIAGRAM

MU-A18ND

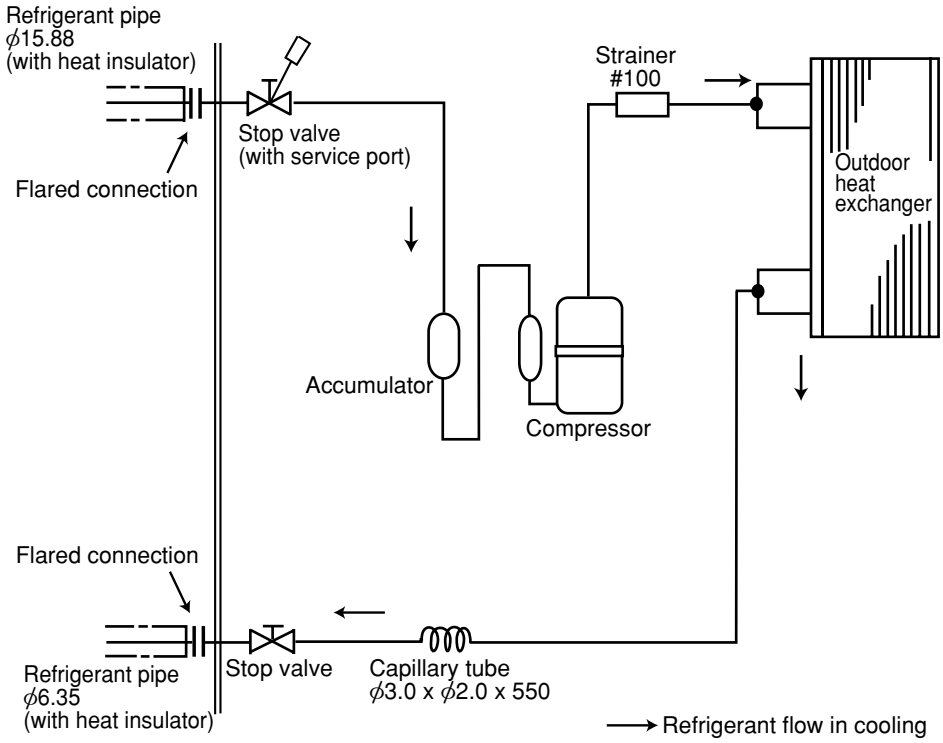
Unit : mm

OUTDOOR UNIT



MU-A24ND

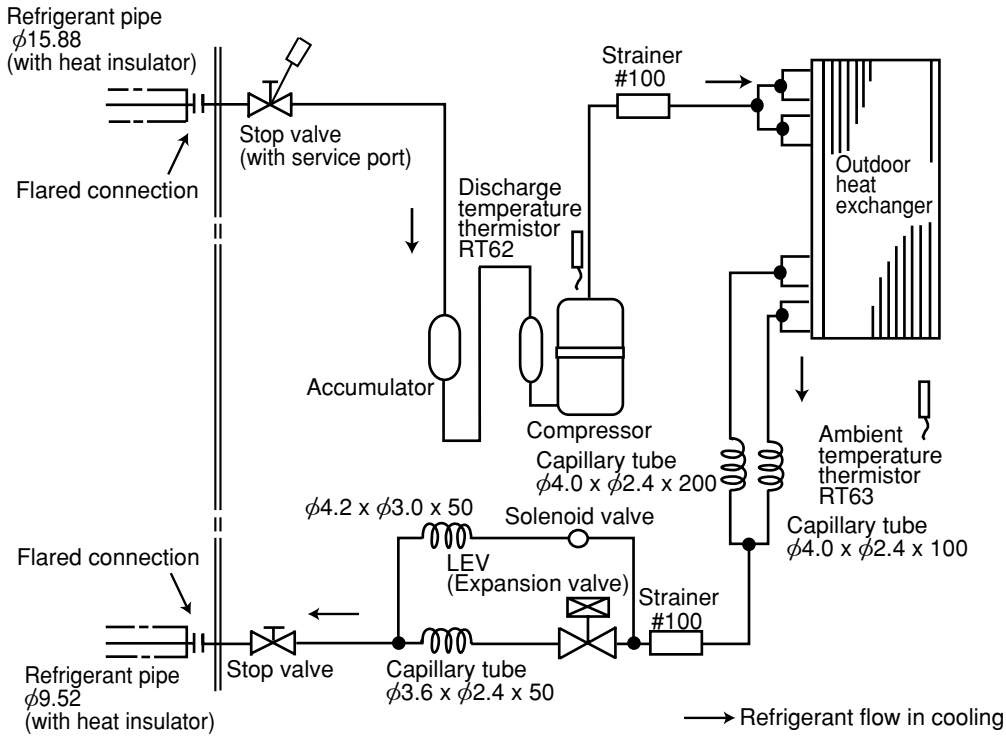
OUTDOOR UNIT



MU-A30ND

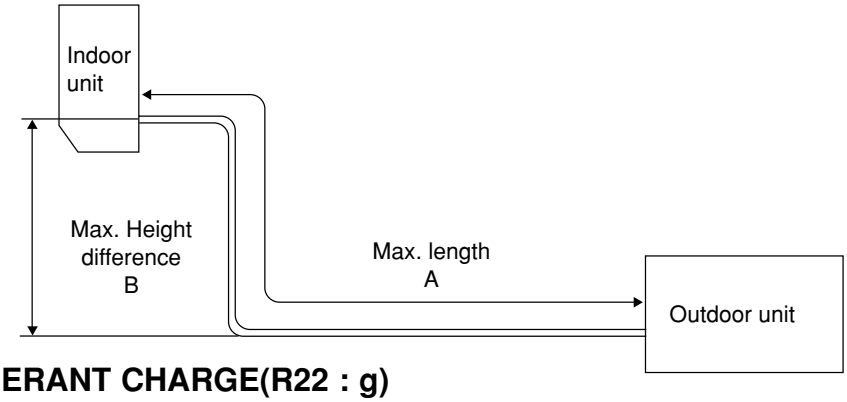
Unit : mm

OUTDOOR UNIT



MAX.REFRIGERANT PIPING LENGTH and MAX.HEIGHT DIFFERENCE

Model	Refrigerant piping : m		Piping size O.D : mm	
	Max. length A	Max. Height difference B	Gas	Liquid
MU-A18ND	30	15	ϕ12.7	ϕ6.35
MU-A24ND			ϕ15.88	
MU-A30ND				ϕ9.52



ADDITIONAL REFRIGERANT CHARGE(R22 : g)

Model	Outdoor unit precharged	Refrigerant piping length (one way)				
		7m	10m	15m	20m	30m
MU-A18ND	1,400	0	45	120	195	345
MU-A24ND	2,200					
MU-A30ND	2,400					

NOTE : Calculation : Xg=15g/m × (Refrigerant piping length (m)-7)

7 PERFORMANCE CURVES

MU-A18ND MU-A24ND MU-A30ND

The standard data contained in these specifications apply only to the operation of the air conditioner under normal conditions. Since operating conditions vary according to the areas where these units are installed. The following information has been provided to clarify the operating characteristics of the air conditioner under the conditions indicated by the performance curve.

(1) GUARANTEED VOLTAGE

198 ~ 253V, 60Hz

(2) AIR FLOW

Air flow should be set at MAX.

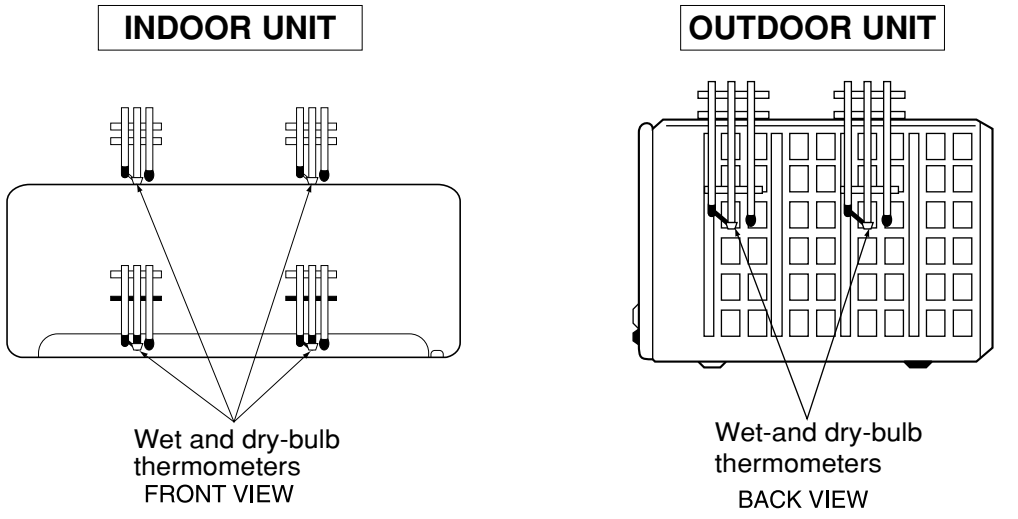
(3) MAIN READINGS

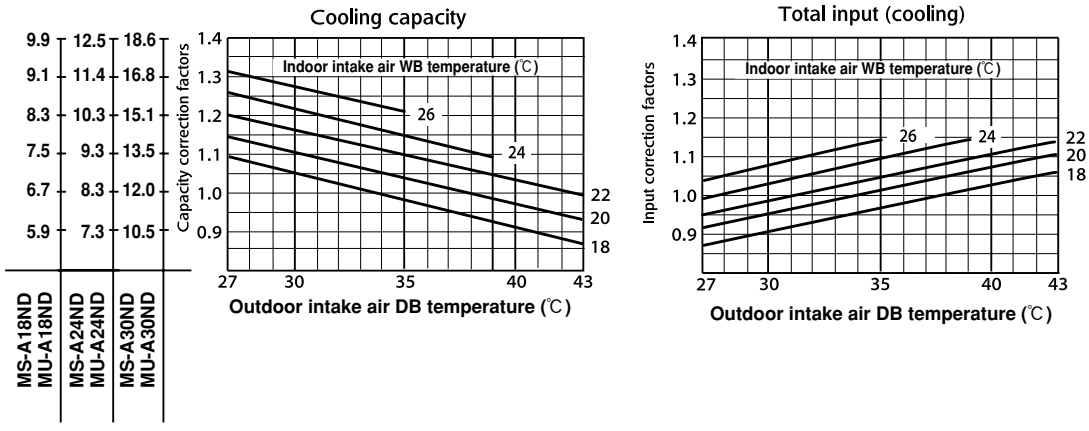
(1) Indoor intake air wet-bulb temperature : °CWB
(2) Indoor outlet air wet-bulb temperature : °CWB
(3) Outdoor intake air dry-bulb temperature : °CDB
(4) Total input: W

Indoor air wet/dry-bulb temperature difference on the left side of the following chart shows the difference between the indoor intake air wet/dry-bulb temperature and the indoor outlet air wet/dry-bulb temperature for your reference at service.

How to measure the indoor air wet/dry-bulb temperature difference

1. Attach at least 2 sets of wet and-dry-bulb thermometers to the indoor air intake as shown in the figure, and at least 2 sets of wet-and-dry-bulb thermometers to the indoor air outlet. The thermometers must be attached to the position where air speed is high.
2. Attach at least 2 sets of wet and dry-bulb thermometers to the outdoor air intake. Cover the thermometers to prevent direct rays of the sun.
3. Check that the air filter is cleaned.
4. Open windows and doors of the room.
5. Press the EMERGENCY OPERATION switch once to start the EMERGENCY COOL MODE.
6. When system stabilizes after more than 15 minutes, measure temperature and take an average temperature.
7. 10 minutes later, measure temperature again and check that the temperature does not change.





OUTDOOR LOW PRESSURE AND OUTDOOR UNIT CURRENT
COOL operation

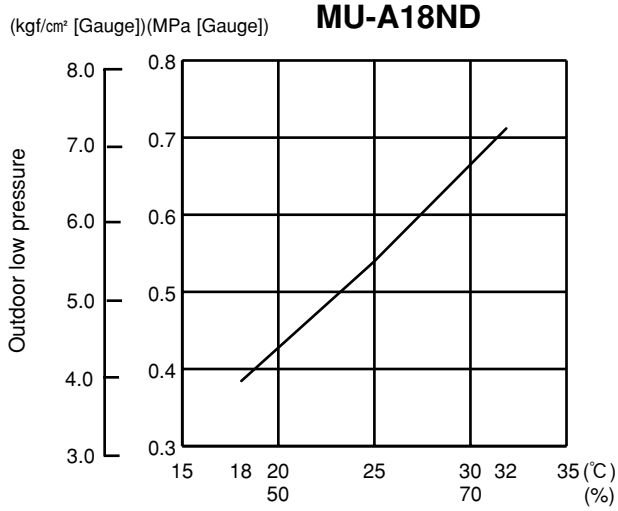
① Both indoor and outdoor units are under the same temperature/humidity condition.

Dry-bulb temperature (℃)	Relative humidity (%)
20	50
25	60
30	70

② Air flow should be set at MAX.

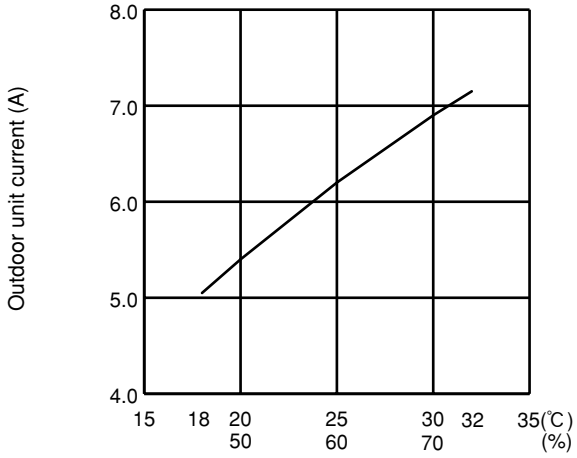
③ The unit of pressure has been changed to MPa on the international system of units(SI unit system).
The conversion factor is : **1(MPa [Gauge]) =10.2(kgf/㎠ [Gauge])**

MU-A18ND



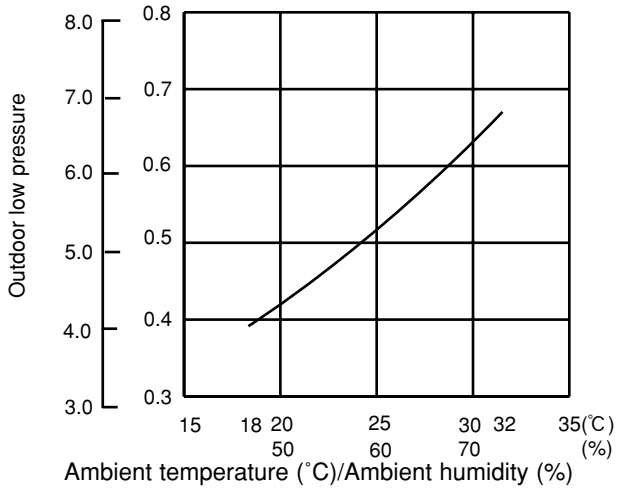
Ambient temperature (˚C)/Ambient humidity (%)

MU-A18ND



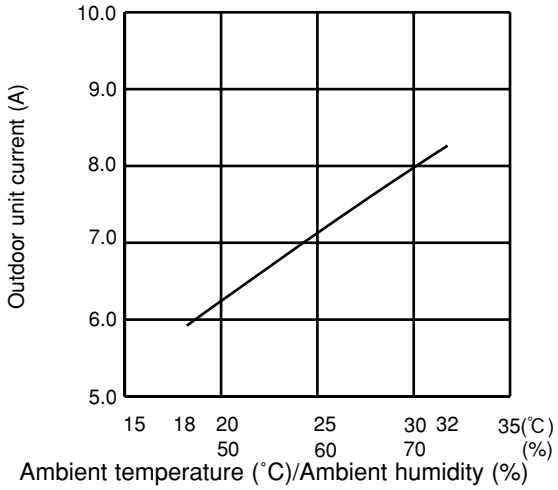
Ambient temperature (˚C)/Ambient humidity (%)

MU-A24ND



Ambient temperature (˚C)/Ambient humidity (%)

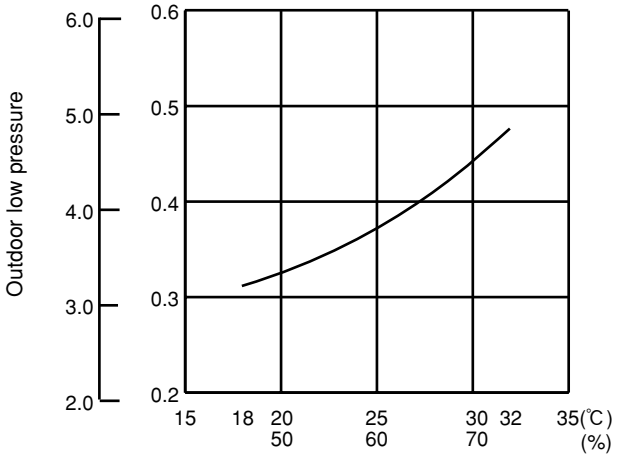
MU-A24ND



Ambient temperature (˚C)/Ambient humidity (%)

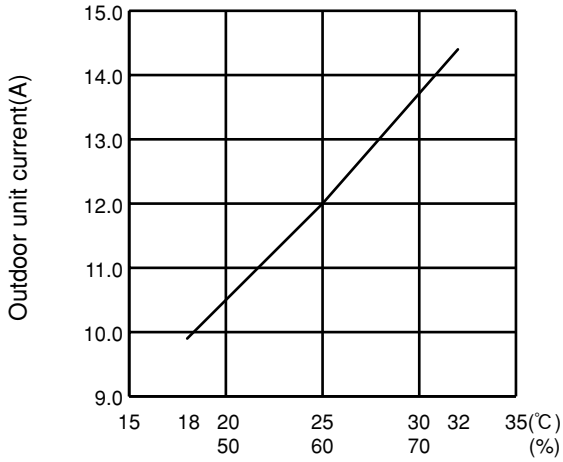
(kgf/cm²[Gauge])(MPa[Gauge])

MU-A30ND



Ambient temperature (˚C)/Ambient humidity (%)

MU-A30ND



Ambient temperature (˚C)/Ambient humidity (%)

8 TROUBLESHOOTING

MU-A18ND MU-A24ND MU-A30ND

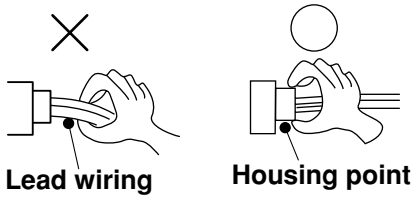
8-1. Cautions on troubleshooting

1. Before troubleshooting, check the following:

1) Check the power supply voltage.
2) Check the indoor/outdoor connecting wire for mis-wiring.

2. Take care the following during servicing.

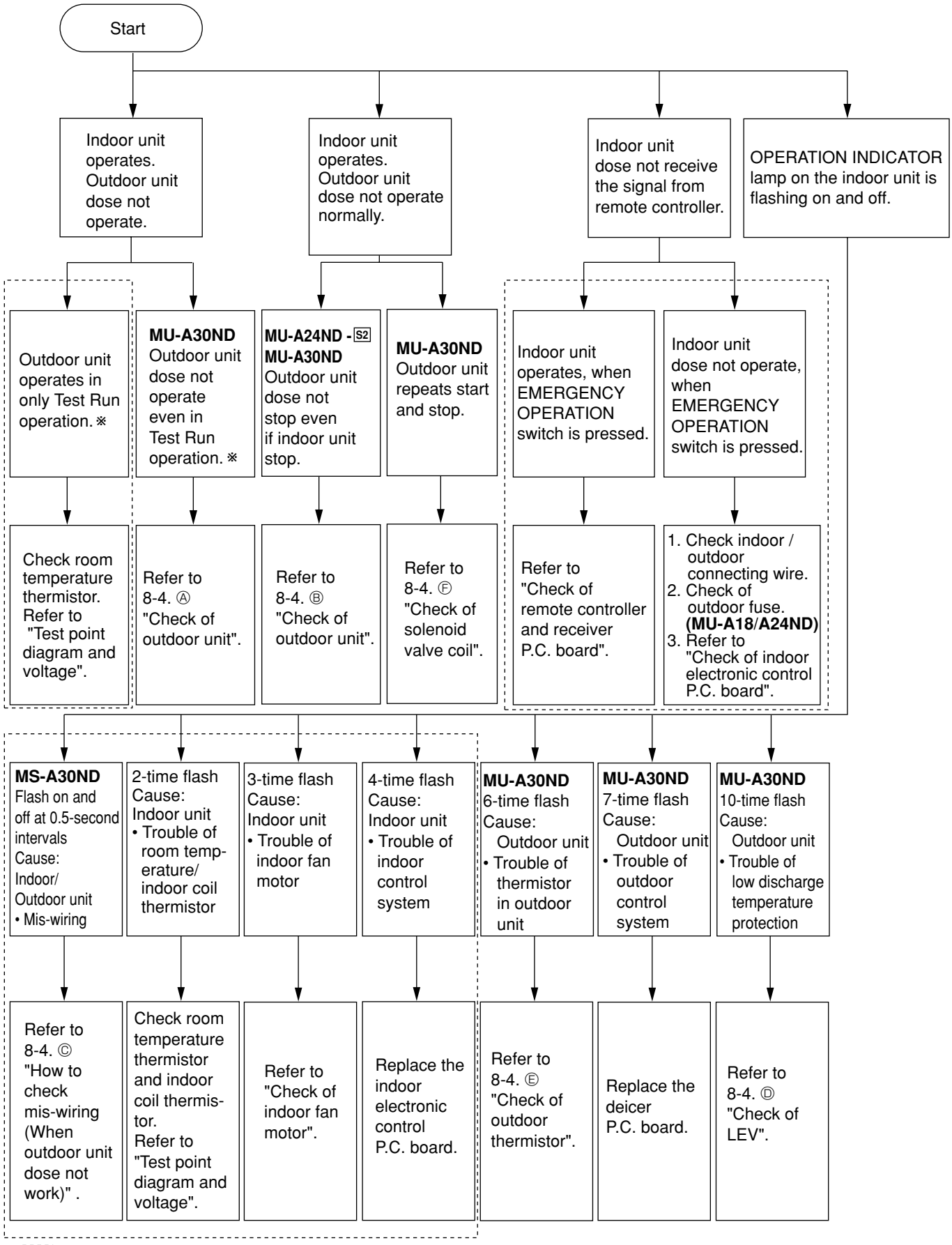
1) Before servicing the air conditioner, be sure to turn off the main unit first with the remote controller, and then after confirming the horizontal vane is closed, turn off the breaker and / or disconnect the power plug.
2) Be sure to turn OFF the power supply before removing the front panel, the cabinet, the top panel and the electronic control P.C. board.
3) When removing the electronic control P.C. board, hold the edge of the board with care NOT to apply stress on the components.
4) When connecting or disconnecting the connectors, hold the housing of the connector. DO NOT pull the lead wires.



3. Troubleshooting procedure

1) First, check if the OPERATION INDICATOR lamp on the indoor unit is flashing on and off to indicate an abnormality. To make sure, check how many times the abnormality indication is flashing on and off before starting service work.
2) Before servicing that the connector and terminal are connected properly.
3) If the electronic control P.C. board is supposed to be defective, check the copper foil pattern for disconnection and the components for bursting and discolouration.
4) When troubleshooting, refer to 8-2.

8-2. Instruction of troubleshooting


Start
Indoor unit operates. Outdoor unit dose not operate.
Indoor unit operates. Outdoor unit dose not operate normally.
Indoor unit dose not receive the signal from remote controller.
OPERATION INDICATOR lamp on the indoor unit is flashing on and off.
Outdoor unit operates in only Test Run operation. ※
MU-A30ND Outdoor unit dose not operate even in Test Run operation. ※
MU-A24ND - S2
MU-A30ND Outdoor unit dose not stop even if indoor unit stop.
MU-A30ND Outdoor unit repeats start and stop.
Indoor unit operates, when EMERGENCY OPERATION switch is pressed.
Indoor unit dose not operate, when EMERGENCY OPERATION switch is pressed.
Check room temperature thermistor. Refer to "Test point diagram and voltage".
Refer to 8-4. Ⓐ "Check of outdoor unit".
Refer to 8-4. Ⓑ "Check of outdoor unit".
Refer to 8-4. Ⓕ "Check of solenoid valve coil".
Refer to "Check of remote controller and receiver P.C. board".
1. Check indoor / outdoor connecting wire.
2. Check of outdoor fuse. (MU-A18/A24ND)
3. Refer to "Check of indoor electronic control P.C. board".
MS-A30ND Flash on and off at 0.5-second intervals Cause: Indoor/ Outdoor unit • Mis-wiring
2-time flash Cause: Indoor unit • Trouble of room temperature/ indoor coil thermistor
3-time flash Cause: Indoor unit • Trouble of indoor fan motor
4-time flash Cause: Indoor unit • Trouble of indoor control system
MU-A30ND 6-time flash Cause: Outdoor unit • Trouble of thermistor in outdoor unit
MU-A30ND 7-time flash Cause: Outdoor unit • Trouble of outdoor control system
MU-A30ND 10-time flash Cause: Outdoor unit • Trouble of low discharge temperature protection
Refer to 8-4. Ⓒ "How to check mis-wiring (When outdoor unit dose not work)" .
Check room temperature thermistor and indoor coil thermistor. Refer to "Test point diagram and voltage".
Refer to "Check of indoor fan motor".
Replace the indoor electronic control P.C. board.
Refer to 8-4. Ⓔ "Check of outdoor thermistor".
Replace the deicer P.C. board.
Refer to 8-4. Ⓓ "Check of LEV".

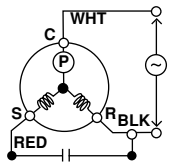
Refer to indoor unit service manual.

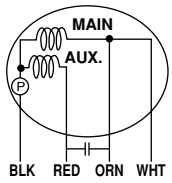
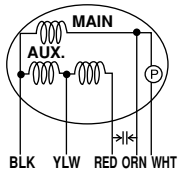
※ "Test Run operation" means the operation within 30 minutes after EMERGENCY OPERATION switch is pressed.

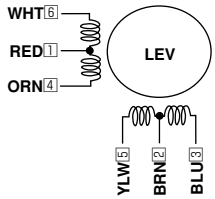
8-3. Trouble criterion of main parts

MU-A18ND MU-A24ND MU-A30ND

<table>
<tr><th>Part name</th><th>Check method and criterion</th><th>Figure</th></tr>
<tr><td>Discharge temperature thermistor(RT62)
MU-A30ND</td><td>Measure the resistance with a tester.
Before measurement, hold the thermistor with your hands to warm it up.
(Part temperature 0˚C ~ 40˚C)
Refer to 8-5. "Test point diagram and voltage", "Outdoor deicer P.C. board", the chart of thermistor.</td><td></td></tr>
<tr><td>Ambient temperature thermistor(RT63)
MU-A30ND</td><td>Measure the resistance with a tester.
(Part temperature –10˚C ~ 40˚C)
Refer to 8-5. "Test point diagram and voltage", "Outdoor deicer P.C. board", the chart of thermistor.</td><td></td></tr>
<tr><td>Compressor (MC)

INNER PROTECTOR
155± 5℃ OPEN
90±10℃ CLOSE</td><td>Measure the resistance between the terminals with a tester.
(Coil wiring temperature -10°C ~ 40°C)
<table><tr><th rowspan="2">Color of lead wire</th><th colspan="3">Normal</th></tr><tr><th>MU-A18ND</th><th>MU-A24ND</th><th>MU-A30ND</th></tr><tr><td>C – R</td><td>1.26 Ω ~ 1.55 Ω</td><td>0.74 Ω ~ 0.91 Ω</td><td>0.54 Ω ~ 0.67 Ω</td></tr><tr><td>C – S</td><td>1.81 Ω ~ 2.23 Ω</td><td>1.84 Ω ~ 2.26 Ω</td><td>1.23 Ω ~ 1.52 Ω</td></tr></table></td><td>  </td></tr>
<tr><td>Outdoor fan motor (MF)

INNER PROTECTOR
135± 5℃ OPEN
87±15℃ CLOSE</td><td>Measure the resistance between the terminals with a tester.
(Coil wiring temperature -10°C ~ 40°C)
<table><tr><th rowspan="2">Color of lead wire</th><th colspan="3">Normal</th></tr><tr><th>MU-A18ND</th><th>MU-A24ND</th><th>MU-A30ND</th></tr><tr><td>WHT – BLK</td><td>63 Ω ~ 77 Ω</td><td>57 Ω ~ 70 Ω</td><td>57 Ω ~ 69 Ω</td></tr><tr><td>BLK – RED</td><td>79 Ω ~ 96 Ω</td><td>58 Ω ~ 71 Ω</td><td>–</td></tr><tr><td>BLK – YLW</td><td>–</td><td>–</td><td>29 Ω ~ 35 Ω</td></tr><tr><td>YLW – RED</td><td>–</td><td>–</td><td>29 Ω ~ 35 Ω</td></tr></table></td><td> 
MU-A18/A24ND
 
MU-A30ND</td></tr>
<tr><td>LEV(Expansion valve)

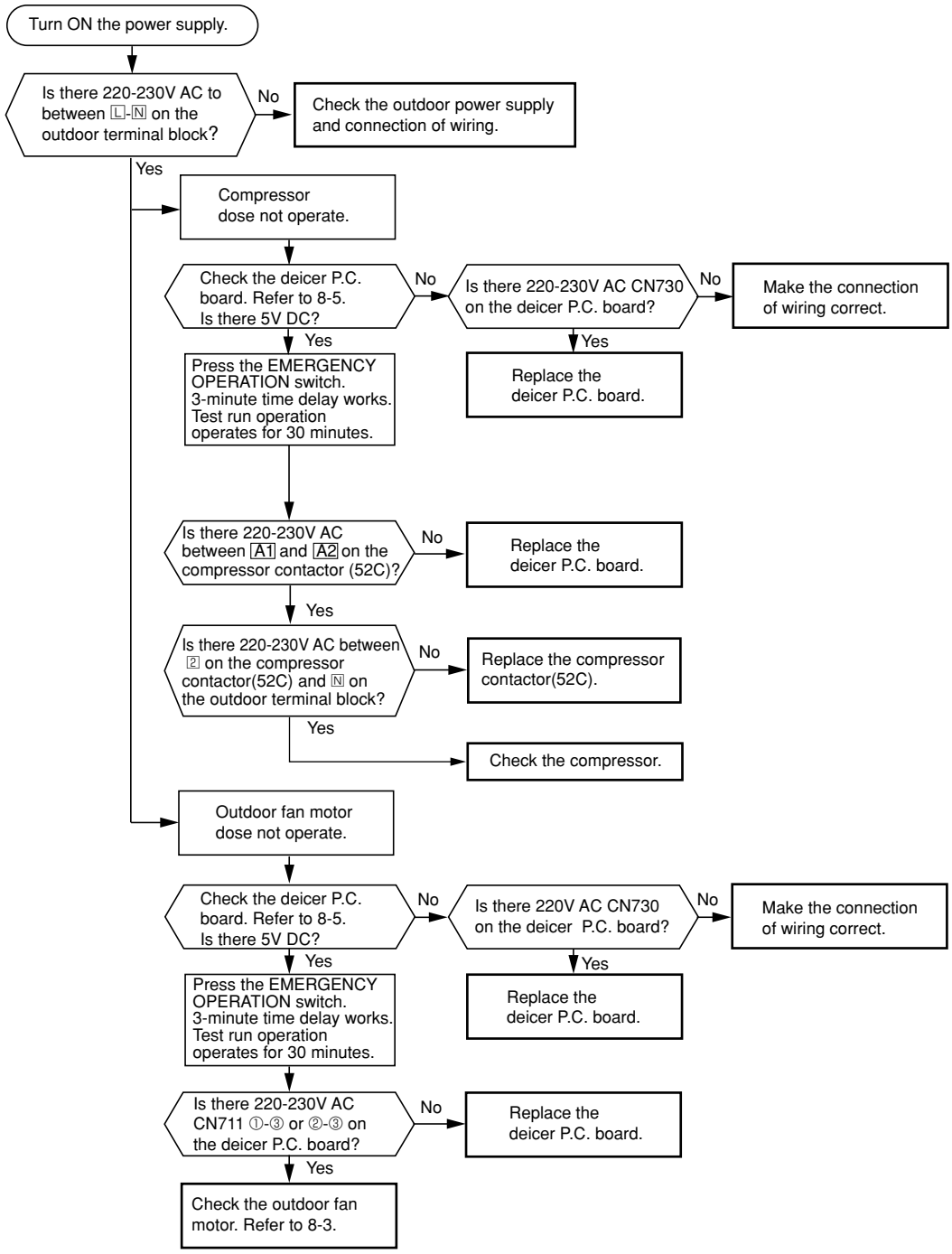
MU-A30ND</td><td>Measure the resistance with a tester.
(Part temperature : 0˚C ~ 40˚C)
<table><tr><th>Color of lead wire</th><th>Normal</th></tr><tr><td>WHT – RED</td><td rowspan="4">37.4 Ω ~ 53.9 Ω</td></tr><tr><td>RED – ORN</td></tr><tr><td>YLW – BRN</td></tr><tr><td>BRN – BLU</td></tr></table></td><td>  </td></tr>
<tr><td>Solenoid valve coil (21S2)
MU-A30ND</td><td>Measure the resistance with a tester.
(Part temperature : –10˚C ~ 40˚C)
<table><tr><th colspan="2">Normal</th></tr><tr><th>MU-A30ND - S1</th><th>MU-A30ND - S2</th></tr><tr><td>1,738 Ω ~ 2,125 Ω</td><td>1,230 Ω ~ 1,330 Ω</td></tr></table></td><td></td></tr>
</table>

Ⓟ:INNER PROTECTOR

8-4. Troubleshooting flow

Compressor and / or outdoor fan motor dose not operate.

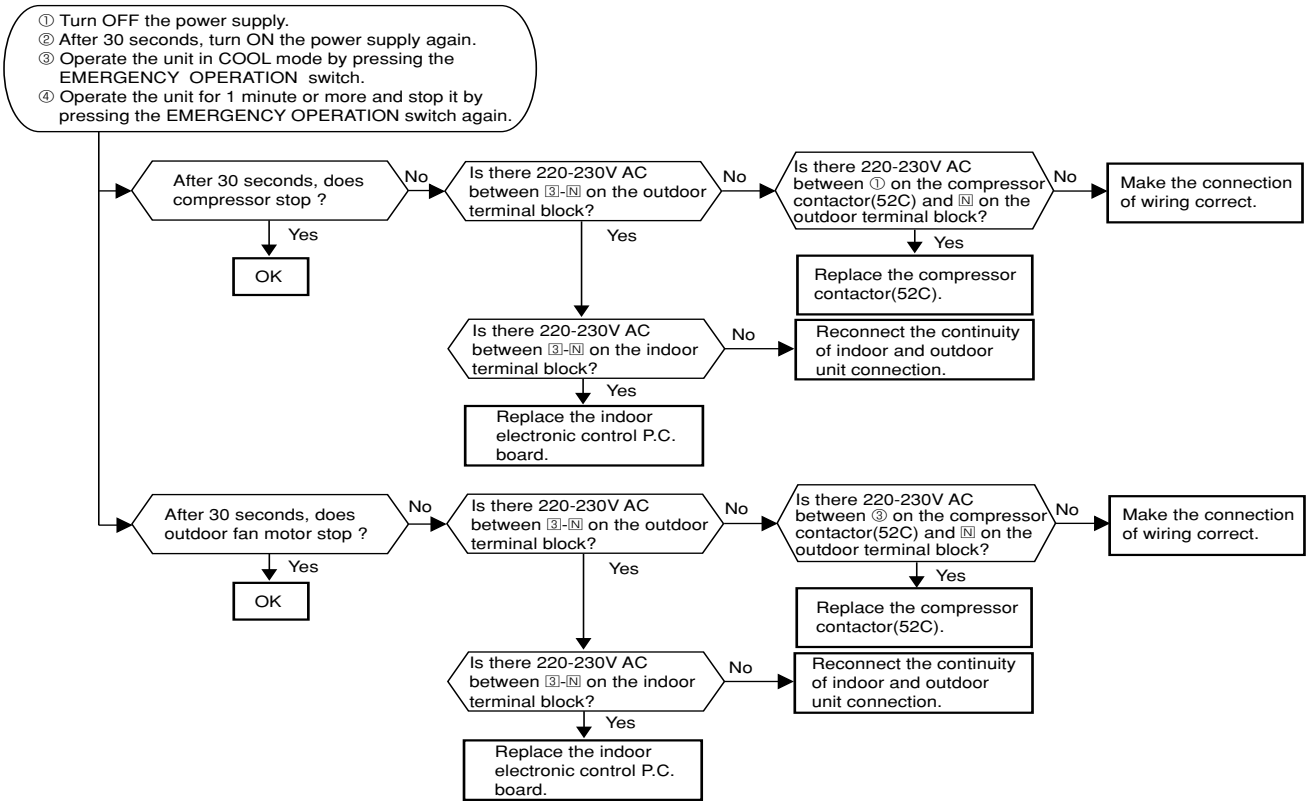
Ⓐ Check of outdoor unit **MU-A30ND**


Turn ON the power supply.
Is there 220-230V AC to between L-N on the outdoor terminal block?
No
Check the outdoor power supply and connection of wiring.
Yes
Compressor dose not operate.
Check the deicer P.C. board. Refer to 8-5. Is there 5V DC?
No
Is there 220-230V AC CN730 on the deicer P.C. board?
No
Make the connection of wiring correct.
Yes
Yes
Press the EMERGENCY OPERATION switch. 3-minute time delay works. Test run operation operates for 30 minutes.
Replace the deicer P.C. board.
Is there 220-230V AC between A1 and A2 on the compressor contactor (52C)?
No
Replace the deicer P.C. board.
Yes
Is there 220-230V AC between 2 on the compressor contactor(52C) and N on the outdoor terminal block?
No
Replace the compressor contactor(52C).
Yes
Check the compressor.
Outdoor fan motor dose not operate.
Check the deicer P.C. board. Refer to 8-5. Is there 5V DC?
No
Is there 220V AC CN730 on the deicer P.C. board?
No
Make the connection of wiring correct.
Yes
Yes
Press the EMERGENCY OPERATION switch. 3-minute time delay works. Test run operation operates for 30 minutes.
Replace the deicer P.C. board.
Is there 220-230V AC CN711 ①-③ or ②-③ on the deicer P.C. board?
No
Replace the deicer P.C. board.
Yes
Check the outdoor fan motor. Refer to 8-3.

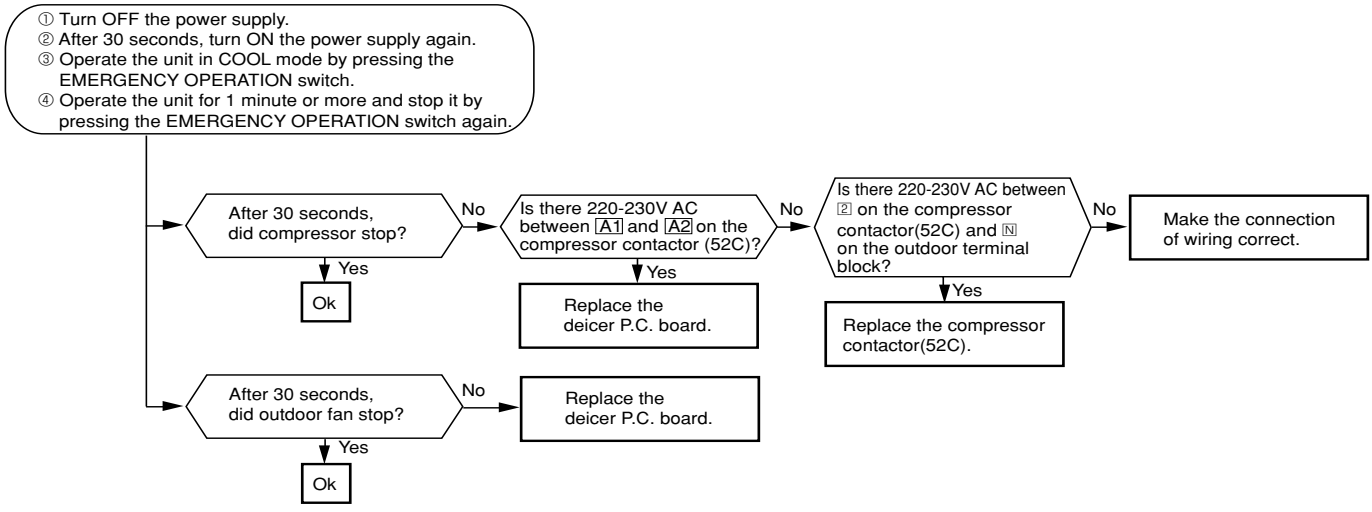
Compressor and / or outdoor fan motor dose not stop.

Ⓑ Check of outdoor unit

MU-A24ND - S2


① Turn OFF the power supply.
② After 30 seconds, turn ON the power supply again.
③ Operate the unit in COOL mode by pressing the EMERGENCY OPERATION switch.
④ Operate the unit for 1 minute or more and stop it by pressing the EMERGENCY OPERATION switch again.
After 30 seconds, does compressor stop ?
No
Yes
OK
Is there 220-230V AC between 3-N on the outdoor terminal block?
No
Yes
Is there 220-230V AC between ① on the compressor contactor(52C) and N on the outdoor terminal block?
No
Yes
Make the connection of wiring correct.
Replace the compressor contactor(52C).
Is there 220-230V AC between 3-N on the indoor terminal block?
No
Yes
Reconnect the continuity of indoor and outdoor unit connection.
Replace the indoor electronic control P.C. board.
After 30 seconds, does outdoor fan motor stop ?
No
Yes
OK
Is there 220-230V AC between 3-N on the outdoor terminal block?
No
Yes
Is there 220-230V AC between ③ on the compressor contactor(52C) and N on the outdoor terminal block?
No
Yes
Make the connection of wiring correct.
Replace the compressor contactor(52C).
Is there 220-230V AC between 3-N on the indoor terminal block?
No
Yes
Reconnect the continuity of indoor and outdoor unit connection.
Replace the indoor electronic control P.C. board.

MU-A30ND

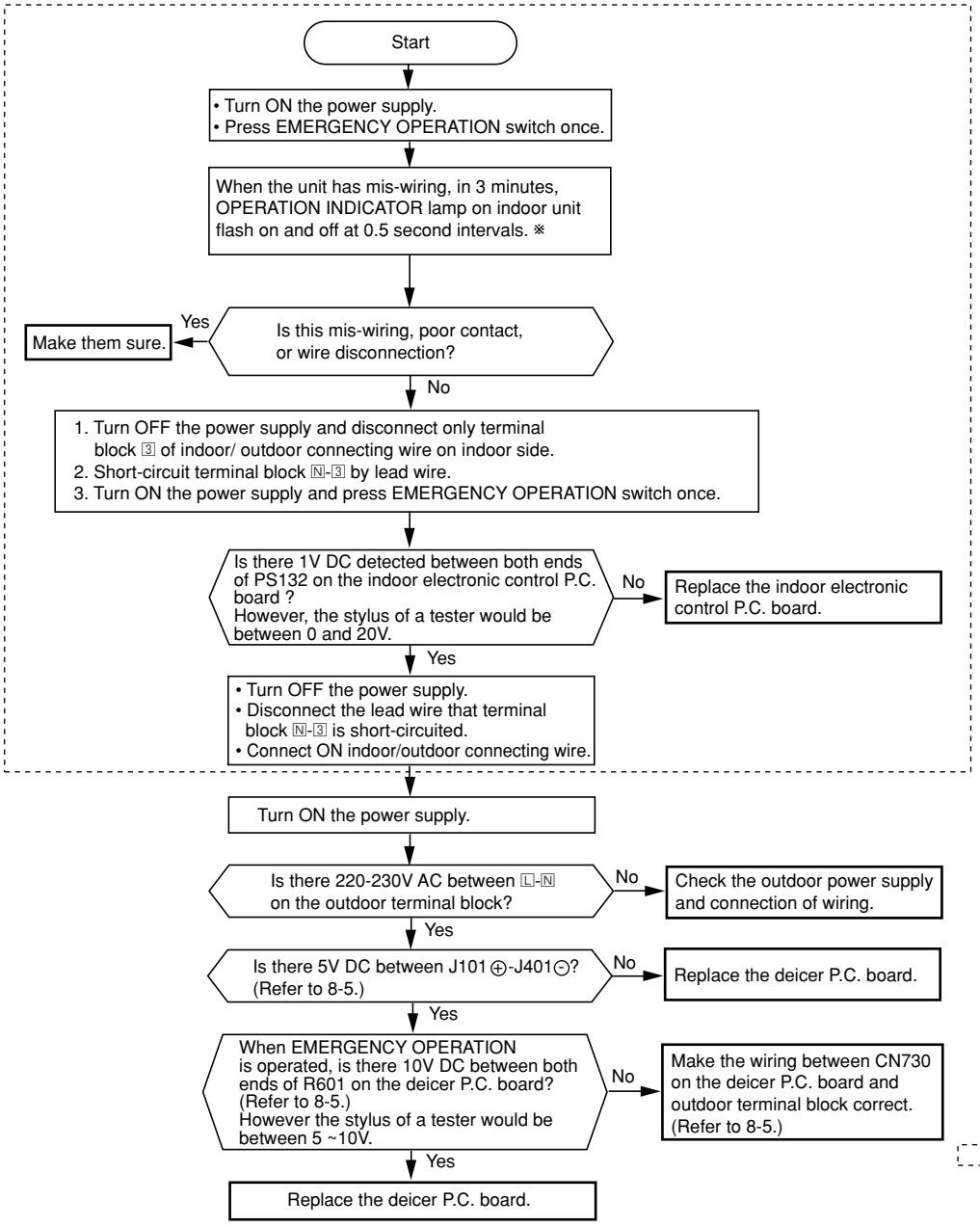

① Turn OFF the power supply.
② After 30 seconds, turn ON the power supply again.
③ Operate the unit in COOL mode by pressing the EMERGENCY OPERATION switch.
④ Operate the unit for 1 minute or more and stop it by pressing the EMERGENCY OPERATION switch again.
After 30 seconds, did compressor stop?
No
Yes
Ok
Is there 220-230V AC between A1 and A2 on the compressor contactor (52C)?
No
Yes
Replace the deicer P.C. board.
Is there 220-230V AC between 2 on the compressor contactor(52C) and N on the outdoor terminal block?
No
Yes
Make the connection of wiring correct.
Replace the compressor contactor(52C).
After 30 seconds, did outdoor fan stop?
No
Replace the deicer P.C. board.
Yes
Ok

When OPERATION INDICATOR lamp flashes ON and OFF in every 0.5-second.
Outdoor unit dose not operate.

ⓒHow to check mis-wiring

MU-A30ND

※ Short circuit of JPG and JPS on the indoor electronic control P.C. board enables self -check to be displayed in 3 seconds.

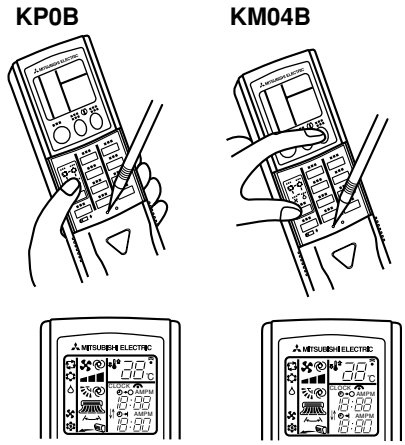

Start
• Turn ON the power supply.
• Press EMERGENCY OPERATION switch once.
When the unit has mis-wiring, in 3 minutes, OPERATION INDICATOR lamp on indoor unit flash on and off at 0.5 second intervals. ※
Is this mis-wiring, poor contact, or wire disconnection?
Yes
Make them sure.
No
1. Turn OFF the power supply and disconnect only terminal block 3 of indoor/ outdoor connecting wire on indoor side.
2. Short-circuit terminal block N-3 by lead wire.
3. Turn ON the power supply and press EMERGENCY OPERATION switch once.
Is there 1V DC detected between both ends of PS132 on the indoor electronic control P.C. board ?
However, the stylus of a tester would be between 0 and 20V.
No
Replace the indoor electronic control P.C. board.
Yes
• Turn OFF the power supply.
• Disconnect the lead wire that terminal block N-3 is short-circuited.
• Connect ON indoor/outdoor connecting wire.
Turn ON the power supply.
Is there 220-230V AC between L-N on the outdoor terminal block?
No
Check the outdoor power supply and connection of wiring.
Yes
Is there 5V DC between J101 ⊕-J401 ⊖? (Refer to 8-5.)
No
Replace the deicer P.C. board.
Yes
When EMERGENCY OPERATION is operated, is there 10V DC between both ends of R601 on the deicer P.C. board? (Refer to 8-5.)
However the stylus of a tester would be between 5 ~10V.
No
Make the wiring between CN730 on the deicer P.C. board and outdoor terminal block correct. (Refer to 8-5.)
Yes
Replace the deicer P.C. board.
Refer to indoor unit service manual.

When OPERATION INDICATOR lamp flashes 10-time.
Cooling mode dose not operate.

Ⓓ Check of LEV (Expansion valve) MU-A30ND

Remote controller model : KP0B
Turn ON the power supply.
① While pressing OPERATION SELECT button on the remote controller, press RESET button.
② Release RESET button to confirm if all LCD in operation display section of the remote controller is displayed.
③ Release OPERATION SELECT button.

Remote controller model : KM04B
Turn ON the power supply.
① While pressing both OPERATION SELECT button and TOO COOL button on the remote controller at the same time, press RESET button.
② First, release RESET button. And release the other two buttons after all LCD in operation display section of the remote controller is displayed after 3 seconds.



With remote controller set toward the indoor unit, press OPERATE/ STOP(ON/ OFF) button and confirm one beep tone.

LEV operates in full-opening direction.

Do you hear the expansion valve "click, click·····"?
Do you feel the expansion valve vibrate on touching it?
Yes → Ok
No

Is LEV properly fixed to the expansion valve?
No → Properly fix LEV coil to the expansion valve.
Yes

Does the resistance of LEV have the characteristics on 8-3?
Yes → Replace the deicer P.C. board.
No

Replace the LEV.

NOTE : After check of LEV, do the undermentioned operation.
1. Turn OFF the power supply and turn ON again.
2. Press the RESET button on the remote controller.

When OPERATION INDICATOR lamp flashes 6-time.
Thermistors in the outdoor unit are abnormal.

Ⓔ Check of outdoor thermistor MU-A30ND

※ Disconnect the connectors CN662 from the deicer P.C. board. (Check the characteristics of each thermistor.)

Turn OFF the power supply.

Discharge temperature thermistor(RT62)
Measure resistance between CN 662 ① and ②.

Ambient temperature thermistor(RT63)
Measure resistance between CN 662 ③ and ④.

Does the resistances of thermistor have the characteristics on 8-5.?
Yes → Connect CN662. Turn ON the power supply and press the EMERGENCY OPERATION switch.
No → Replace the thermistor.

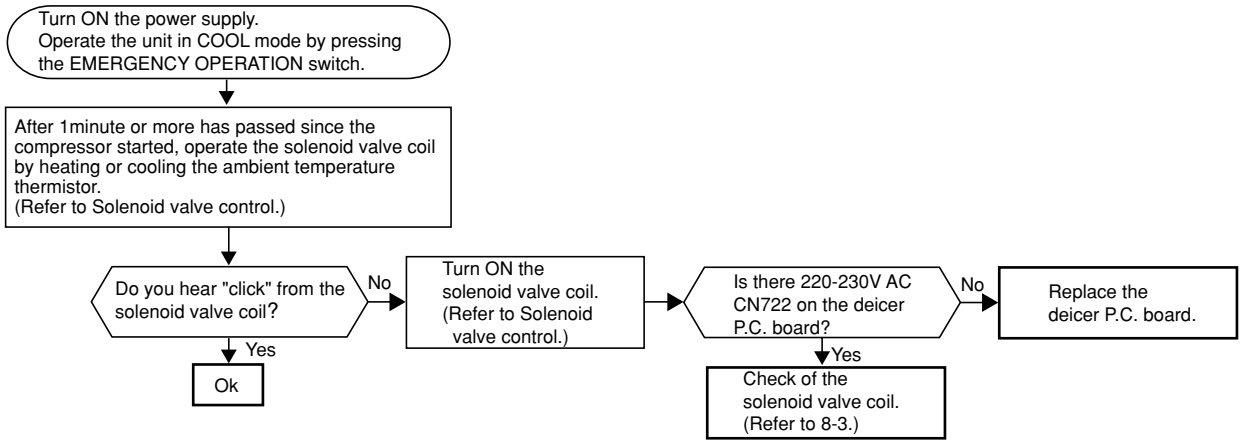
Does the unit operate 10 minutes or more?
No → Replace the deicer P.C. board.
Yes → Ok ※

※ Defective contact of the connector is considered.

Ⓕ Check of solenoid valve coil

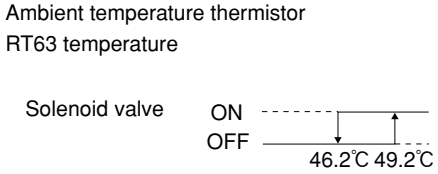
MU-A30ND

Outdoor unit repeats start and stop.


Turn ON the power supply.
Operate the unit in COOL mode by pressing the EMERGENCY OPERATION switch.
After 1minute or more has passed since the compressor started, operate the solenoid valve coil by heating or cooling the ambient temperature thermistor.
(Refer to Solenoid valve control.)
Do you hear "click" from the solenoid valve coil?
No
Yes
Ok
Turn ON the solenoid valve coil.
(Refer to Solenoid valve control.)
Is there 220-230V AC CN722 on the deicer P.C. board?
No
Yes
Replace the deicer P.C. board.
Check of the solenoid valve coil.
(Refer to 8-3.)

Solenoid valve control

The solenoid valve opens when the ambient temperature thermistor RT63 temperature reaches 49.2℃ or more after 1 minute has passed since the compressor turned on. Then, the solenoid valve maintains to open until the ambient temperature thermistor RT63 temperature falls 46.2℃ or less.

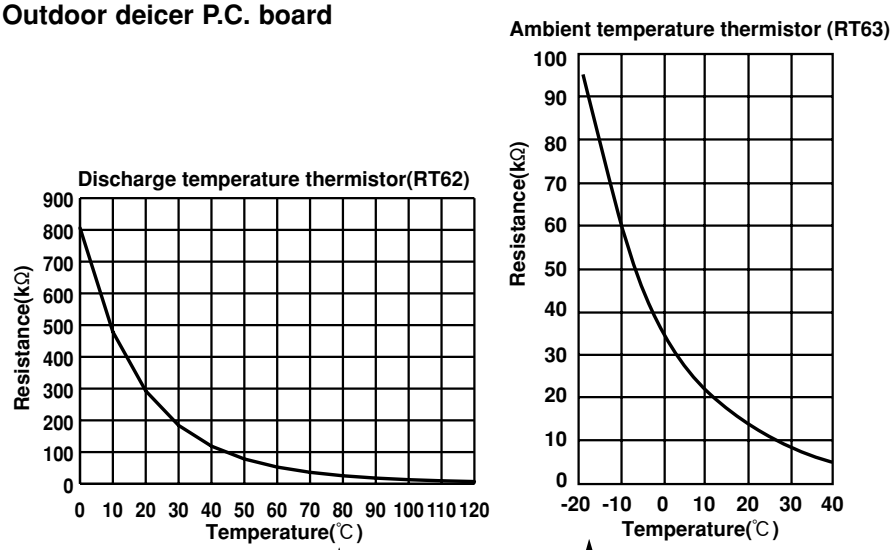


NOTE: The solenoid valve remains to close when the ambient temperature thermistor RT63 temperature is 49.2℃ or less after 1 minute has passed since the compressor turned on.

8-5. Test point diagram and voltage

MU-A30ND

Outdoor deicer P.C. board



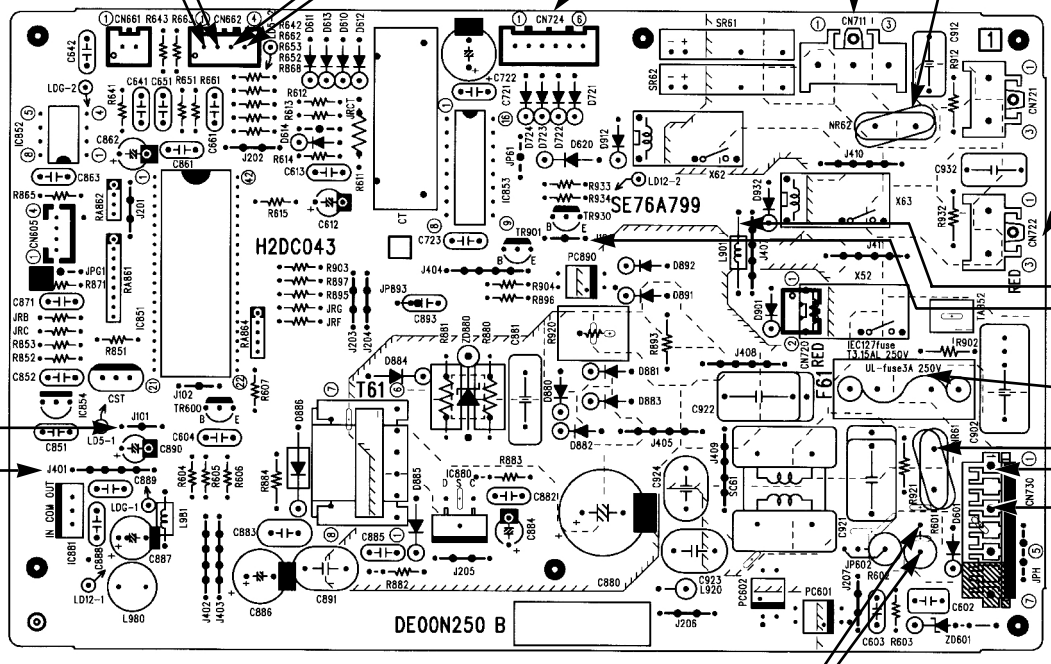
CN662 ①-②
Discharge temperature thermistor (RT62)
(Refer to 8-4.Ⓔ.)

CN662 ③-④
Ambient temperature thermistor (RT63)
(Refer to 8-4.Ⓔ.)

LEV connector (CN724)

Fan motor connector (CN711)

Varistor (NR62)



Solenoid valve coil (CN722)

⊕ } 12V DC
⊖

Fuse 3.15A / 250V

Varistor (NR61)

CN730①-③ 220-230-240V AC

(Refer to 8-4. Ⓐ or Ⓒ.)

J101 ⊕ 5V DC
J401 ⊖
(Refer to 8-4. Ⓒ.)

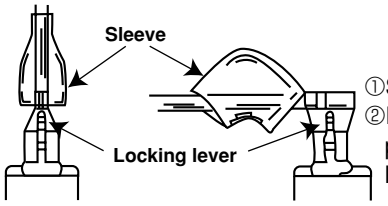
R601 10V DC (Refer to 8-4. Ⓒ.)

9 DISASSEMBLY INSTRUCTIONS

<"Terminal with locking mechanism" Detaching points>

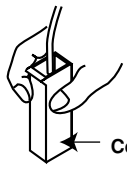
The terminal which has the locking mechanism can be detached as shown below.
There are two types (Refer to (1) and (2)) of the terminal with locking mechanism.
The terminal without locking mechanism can be detached by pulling it out.
Check the shape of the terminal before detaching.

(1) Slide the sleeve and check if there is a locking lever or not.



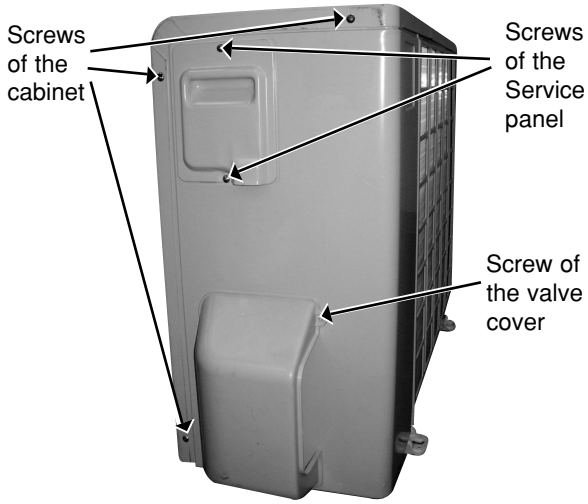
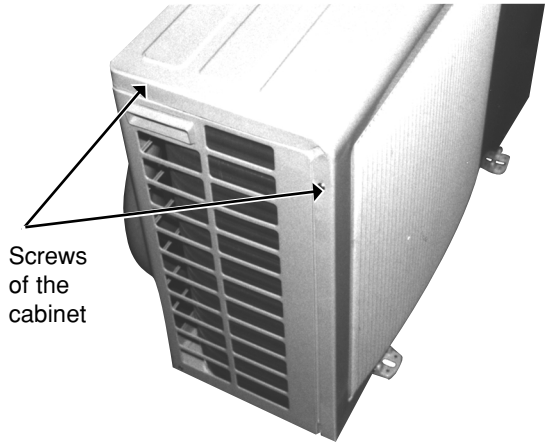
①Slide the sleeve.
②Pull the terminal while pushing the locking lever.

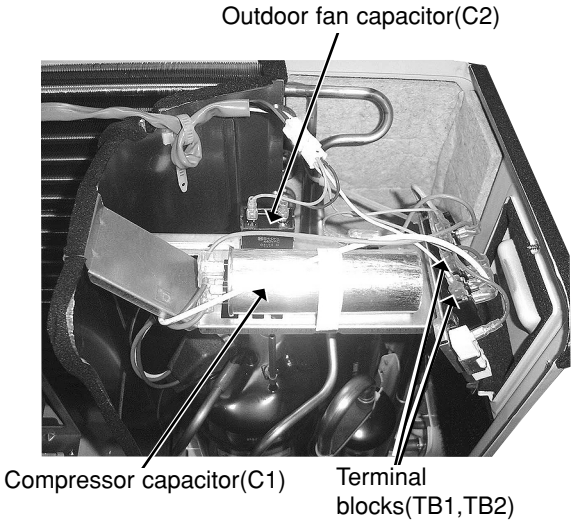
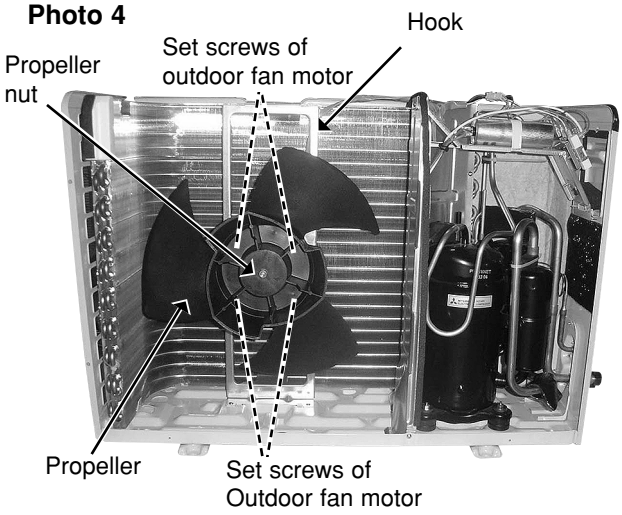
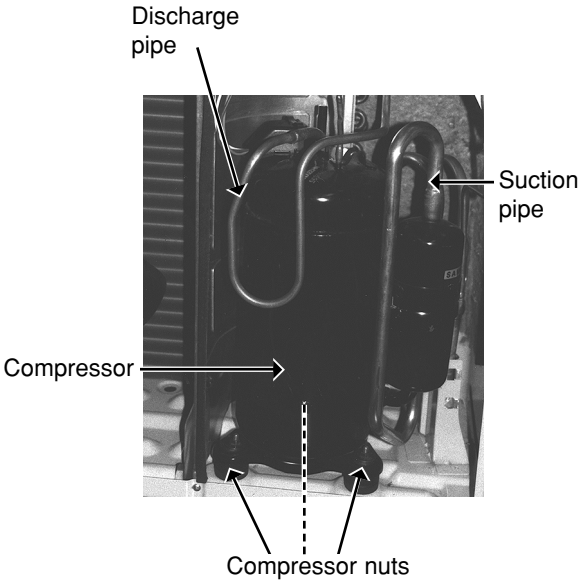
(2) The terminal with this connector has the locking mechanism.



①Hold the sleeve, and pull out the terminal slowly.

9-1. MU-A18ND OUTDOOR UNIT

OPERATING PROCEDURE	PHOTOS
1. Removing the cabinet (1) Remove the screws of the cabinet. (2) Hold the bottom of the cabinet on both sides to remove the cabinet. (3) Remove the screws of the service panel and remove the service panel. (4) Remove the screw of the valve cover and remove the valve cover **(MU-A18ND-S2).**	**Photo 1**  **Photo : MU-A18ND -S2** **Photo 2** 

OPERATING PROCEDURE	PHOTOS
2. Removing the electrical parts (1) Remove the service panel and the cabinet. (2) Remove the following parts. •Compressor capacitor (C1) •Outdoor fan capacitor (C2) •Terminal blocks (TB1,TB2)	**Photo 3** 
3. Removing the outdoor fan motor (1) Remove the cabinet. (Refer to 1.) (2) Disconnect the connector remove the hooked lead wire from the fan motor. (3) Remove the propeller nut and remove the propeller. (4) Remove screws fixing the fan motor.	**Photo 4** 
4. Removing the compressor (1) Remove the cabinet. (Refer to 1.) (2) Remove the soundproof felt. (3) Remove the terminal cover on the compressor. (4) Disconnect lead wires from the glass terminal of the compressor. (5) Recover gas from the refrigerant circuit. **NOTE:** Recover gas from the pipes until the pressure gauge shows 0 kg/cm^2 (0MPa). (6) Disconnect the welded part of the discharge pipe. (7) Disconnect the welded part of the suction pipe. (8) Remove nuts fixing the compressor. (9) Remove the compressor.	**Photo 5** 

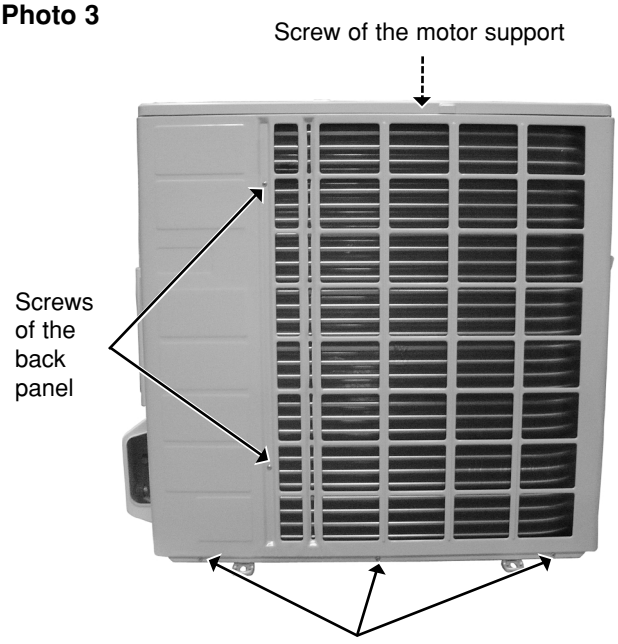
9-2. MU-A24ND OUTDOOR UNIT

OPERATING PROCEDURE

1.Removing the cabinet

(1) Remove the screw of the service panel.
(2) Remove the screws of the top panel.
(3) Remove the screw of the valve cover.
(4) Remove the service panel.
(5) Remove the top panel.
(6) Remove the valve cover.
(7) Remove the screws of the front panel.
(8) Remove the front panel.
(9) Remove the screws of the back panel.
(10) Remove the back panel.

Photo 3



PHOTOS

Photo 1

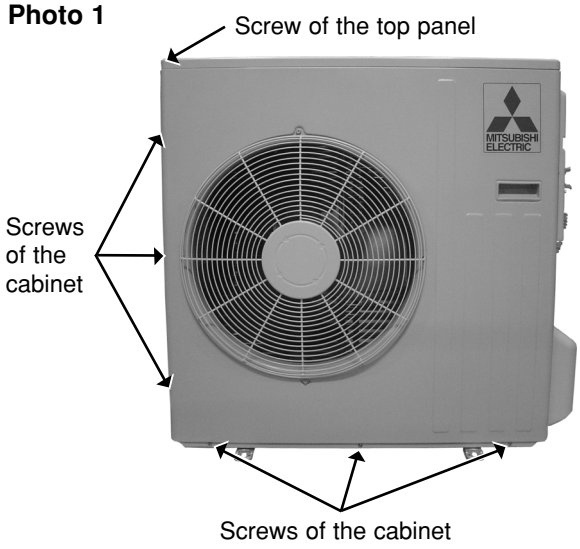
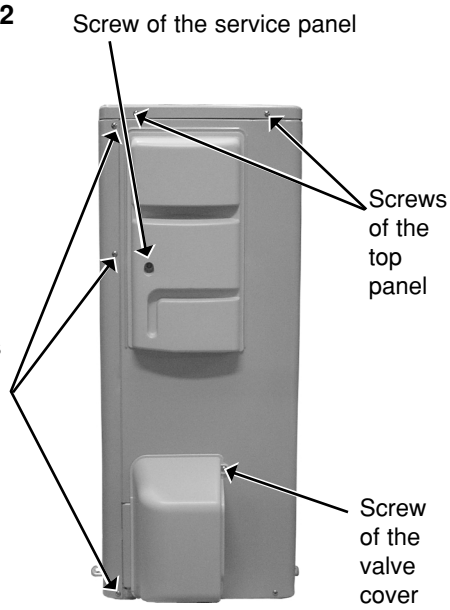


Photo 2



2. Removing the electrical parts

(1) Remove the service panel and the cabinet.
(2) Remove the following parts.
- •Compressor capacitor (C1)
- •Outdoor fan capacitor (C2)
- •Terminal blocks (TB1,TB2)
- •Compressor contactor (52C) **(MU-A24ND-S2)**

Photo 4

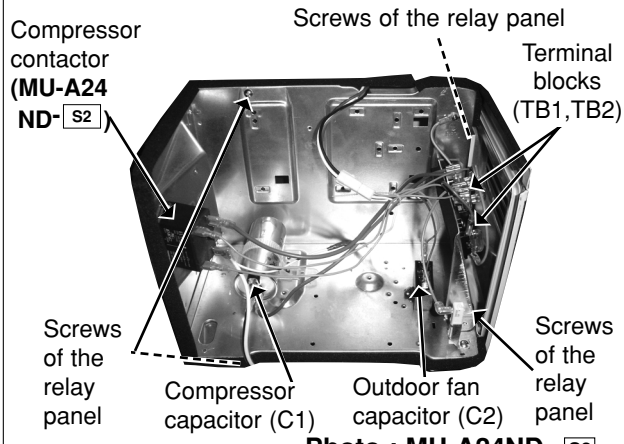
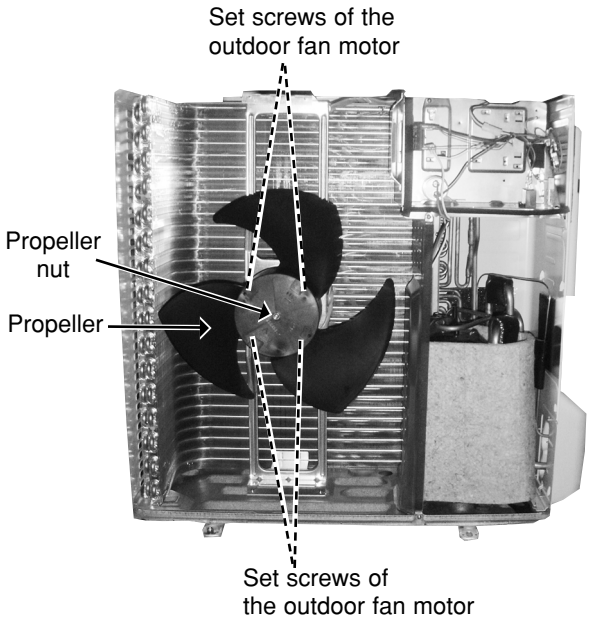
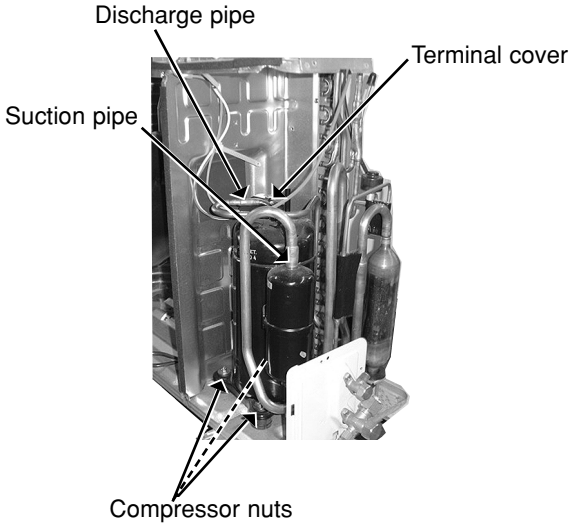
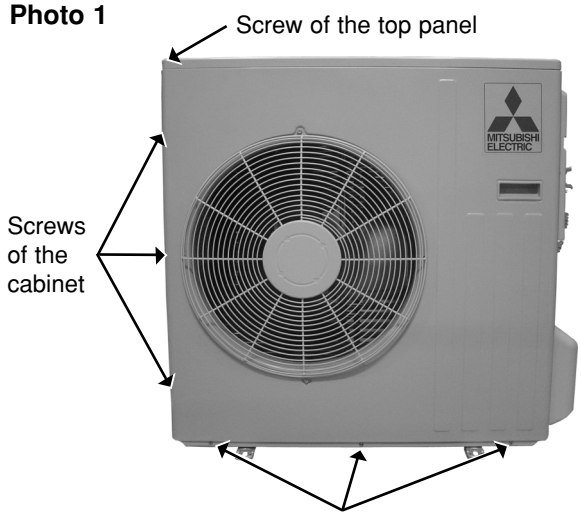
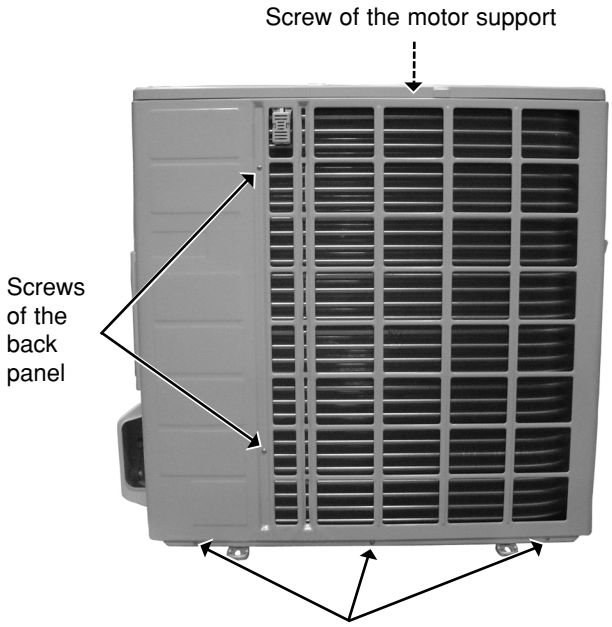
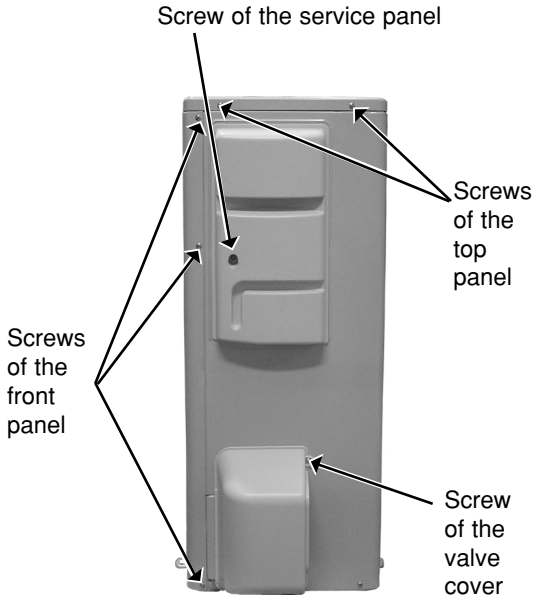
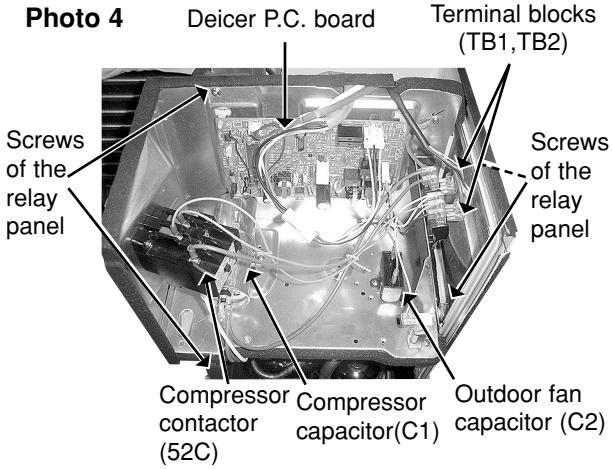
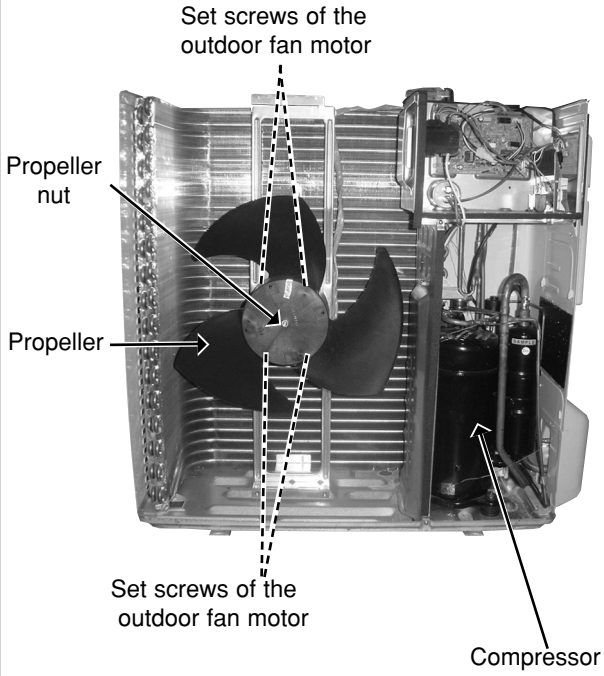
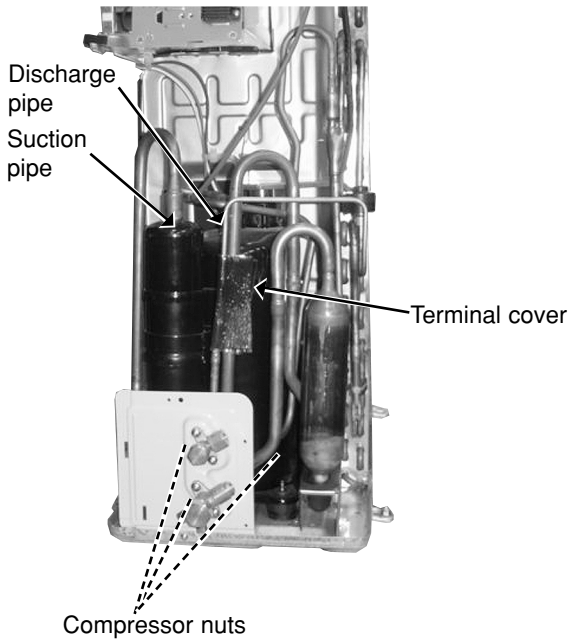

Compressor contactor (MU-A24 ND-S2)
Screws of the relay panel
Terminal blocks (TB1,TB2)
Screws of the relay panel
Compressor capacitor (C1)
Outdoor fan capacitor (C2)
Screws of the relay panel

Photo : MU-A24ND -S2

OPERATING PROCEDURE	PHOTOS
3. Removing the propeller and the outdoor fan motor (1) Remove the cabinet. (Refer to 1.) (2) Remove the propeller nut and the propeller. **NOTE : Loose the propeller in the rotating direction for removal.** When attaching the propeller, align the mark on the propeller and the motor shaft cut section. Set the propeller in position by using the cut on the shaft and the mark on the propeller. (3) Remove the clamp of outdoor fan motor lead wire and disconnect the outdoor fan motor connector. (4) Remove the screws fixing the outdoor fan motor. (5) Remove the outdoor fan motor.	**Photo 5**  **Photo : MU-A24ND -** S2
4. Removing the compressor (1) Remove the cabinet. (Refer to 1.) (2) Remove the relay panel. (3) Remove the soundproof felt. (4) Remove the terminal cover on the compressor. (5) Disconnect lead wires from the compressor. (6) Recover gas from the refrigerant circuit. **NOTE:** Recover gas from the pipes until the pressure gauge shows 0 kg/cm^2 (0 MPa). (7) Disconnect the welded part of the discharge pipe. (8) Disconnect the welded part of the suction pipe. (9) Remove nuts fixing the compressor. (10) Remove the compressor.	**Photo 6** 

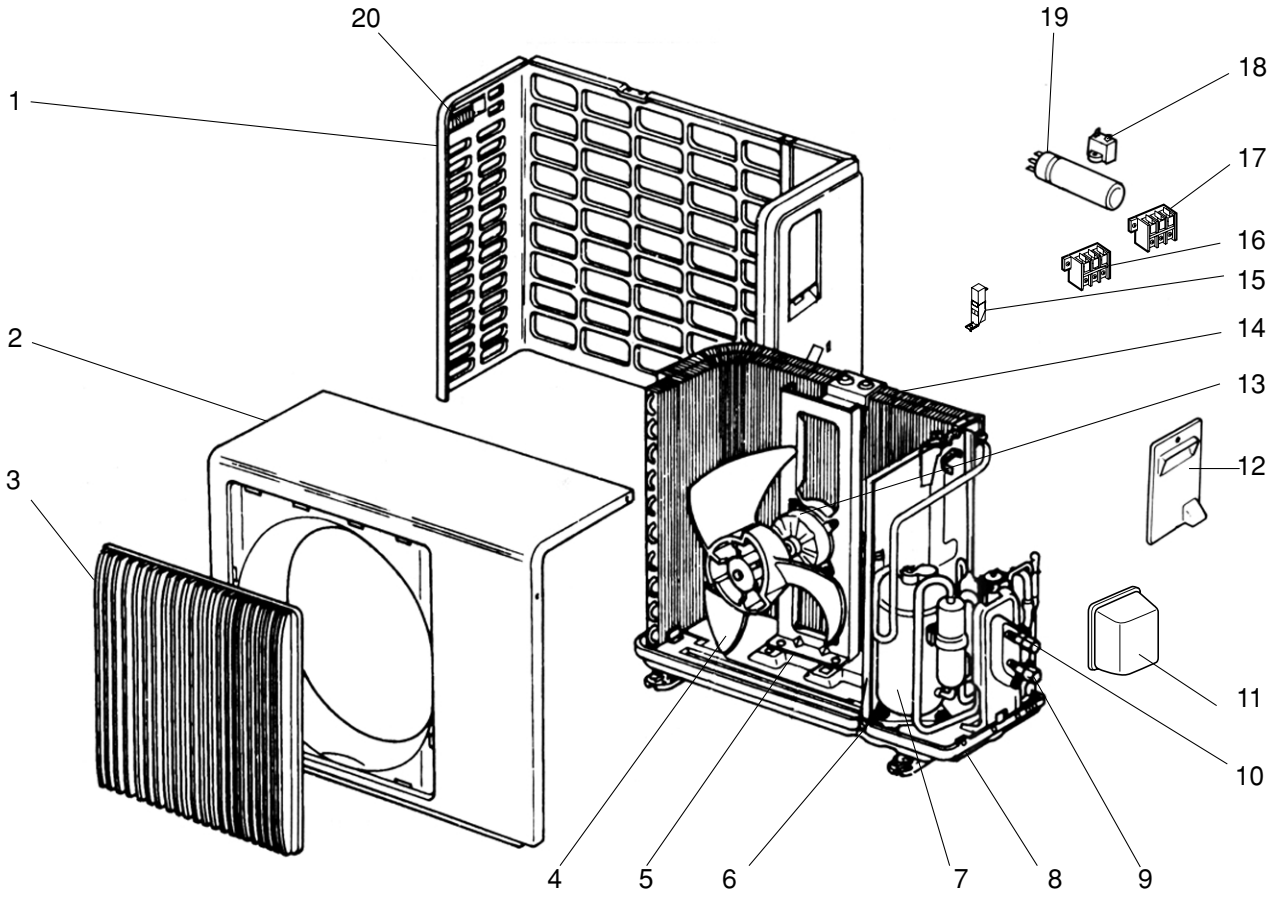
9-3. MU-A30ND
OUTDOOR UNIT

OPERATING PROCEDURE	PHOTOS
1.Removing the cabinet (1) Remove the screw of the service panel. (2) Remove the screws of the top panel. (3) Remove the screw of the valve cover. (4) Remove the service panel. (5) Remove the top panel. (6) Remove the valve cover. (7) Remove the screws of the front panel. (8) Remove the front panel. (9) Remove the screws of the back panel. (10) Remove the back panel.	**Photo 1** 
Photo 3  	**Photo 2** 
2. Removing the deicer P.C. board (1) Remove the service panel and the cabinet. (2) Disconnect all the connectors and the terminals on the deicer P.C. board. (3) Remove the deicer P.C. board.	**Photo 4** 

OPERATING PROCEDURE	PHOTOS
3. Removing the propeller and the outdoor fan motor (1) Remove the cabinet. (Refer to 1.) (2) Remove the propeller nut and the propeller. **NOTE : Loose the propeller in the rotating direction for removal.** When attaching the propeller, align the mark on the propeller and the motor shaft cut section. Set the propeller in position by using the cut on the shaft and the mark on the propeller. (3) Remove the clamp of outdoor fan motor lead wire and disconnect the outdoor fan motor connector. (4) Remove the screws fixing the outdoor fan motor. (5) Remove the outdoor fan motor.	**Photo 5** 
4. Removing the compressor (1) Remove the cabinet. (Refer to 1.) (2) Remove the relay panel. (3) Remove the soundproof felt. (4) Remove the terminal cover on the compressor. (5) Disconnect lead wires from the compressor. (6) Recover gas from the refrigerant circuit. **NOTE:** Recover gas from the pipes until the pressure gauge shows 0 kg/cm^2 (0 MPa). (7) Disconnect the welded part of the discharge pipe. (8) Disconnect the welded part of the suction pipe. (9) Remove nuts fixing the compressor. (10) Remove the compressor.	**Photo 6** 

10 PARTS LIST (non-RoHS compliant)

MU-A18ND
10-1. OUTDOOR UNIT
STRUCTURAL PARTS, ELECTRICAL PARTS AND FUNCTIONAL PARTS

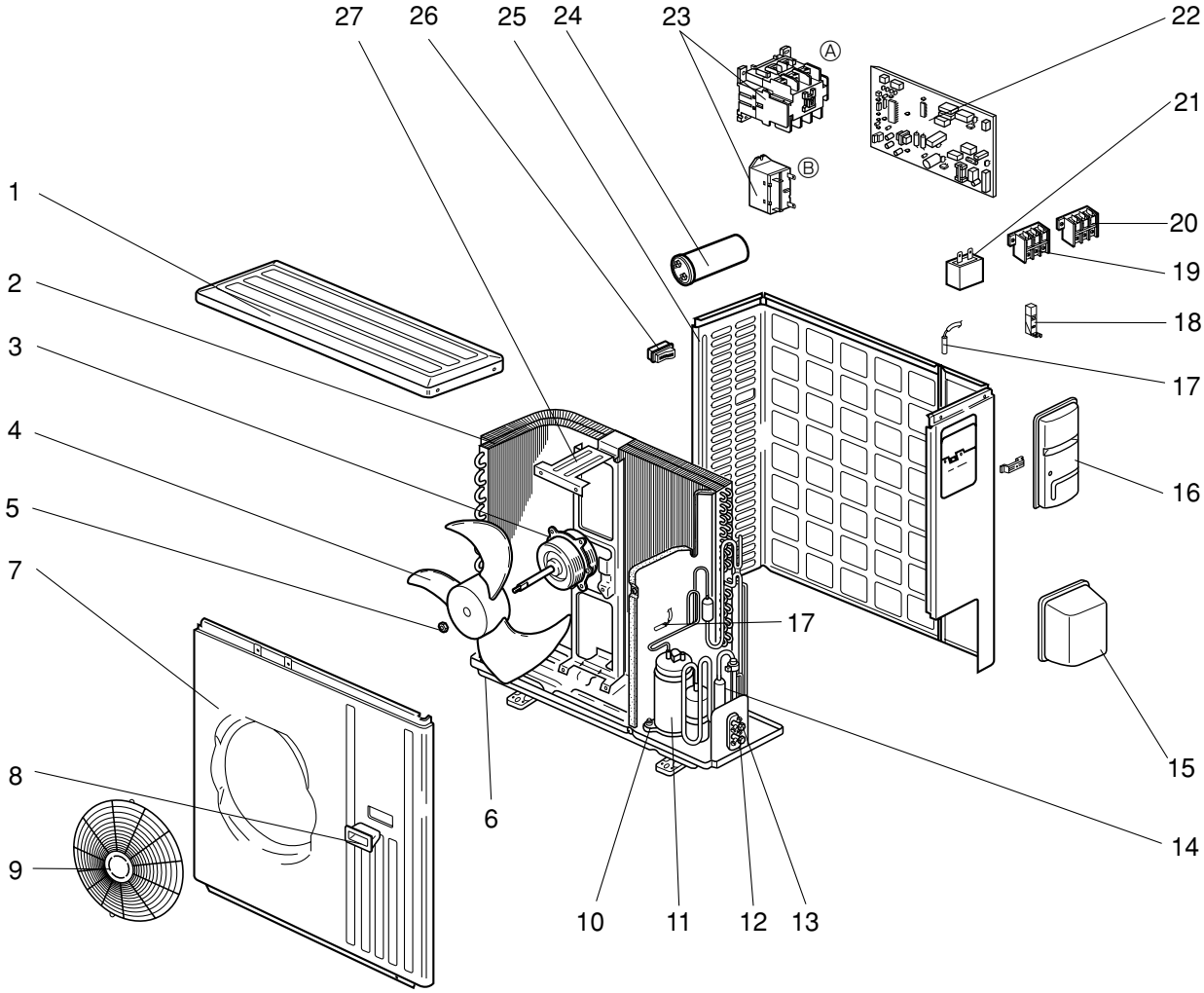


Part numbers that are circled are not shown in the illustration.

No.	Part No.	Part Name	Symbol in Wiring Diagram	Q'ty/unit		Remarks
				MU-A18ND - S1	MU-A18ND - S2	
1	E02 817 233	BACK PANEL		1		
	E02 A27 233	BACK PANEL			1	
2	E02 817 232	CABINET		1	1	
3	E02 817 521	GRILLE		1	1	
4	E02 141 501	PROPELLER		1	1	
5	E02 496 515	MOTOR SUPPORT		1	1	
6	E02 075 506	COMPRESSOR RUBBER SET		3	3	3RUBBERS/SET
7	E02 949 900	COMPRESSOR	MC	1	1	RH247NRAT
8	E02 817 290	BASE		1		
	E02 A27 290	BASE			1	
9	E02 140 661	STOP VALVE(GAS)		1	1	ϕ12.7
10	E02 139 662	STOP VALVE(LIQUID)		1	1	ϕ 6.35
11	E02 819 650	VALVE COVER			1	
12	E02 817 245	SERVICE PANEL		1	1	
13	E02 818 301	OUTDOOR FAN MOTOR	MF	1	1	RA6V60 - □□
14	E02 561 630	OUTDOOR HEAT EXCHANGER		1		
	E02 A27 630	OUTDOOR HEAT EXCHANGER			1	
15	E02 890 383	SURGE ABSORBER	DSAR	1	1	
16	E02 795 374	TERMINAL BLOCK	TB2	1	1	3P
17	E02 798 374	TERMINAL BLOCK	TB1	1	1	3P
18	E02 895 351	OUTDOOR FAN CAPACITOR	C2	1	1	3.0μF/440V AC
19	E02 816 353	COMPRESSOR CAPACITOR	C1	1	1	35μF/440V AC
20	E02 817 009	HANDLE		1	1	
(21)	E02 627 936	CAPILLARY TUBE		1	1	ϕ3.0×ϕ1.8×400
(22)	E02 A49 382	FUSE	F	1	1	3.15A
(23)	E07 001 241	FUSE HOLDER		1	1	

PARTS LIST (non-RoHS compliant)

MU-A24ND MU-A30ND
10-2. OUTDOOR UNIT STRUCTURAL PARTS, ELECTRICAL PARTS AND FUNCTIONAL PARTS



PARTS LIST (non-RoHS compliant)

MU-A24ND MU-A30ND
10-2. OUTDOOR UNIT STRUCTURAL PARTS, ELECTRICAL PARTS AND FUNCTIONAL PARTS

Part numbers that are circled are not shown in the illustration.

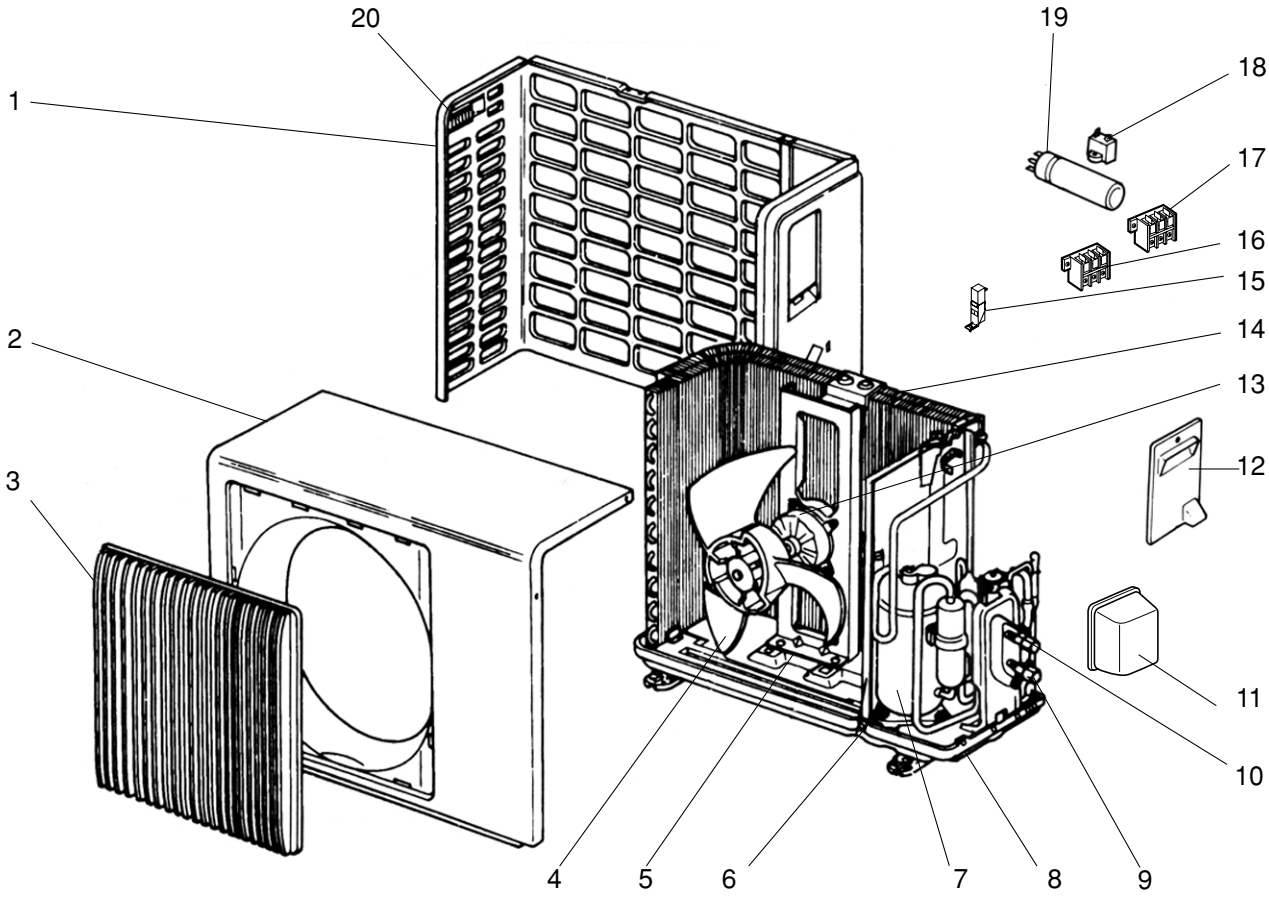
No.	Part No.	Part Name	Symbol in Wiring Diagram	Q'ty/unit			Remarks
				MU-A24ND - S1	MU-A24ND - S2	MU-A30ND - S1	
1	E02 819 297	TOP PANEL		1	1	1	
2	E02 890 630	OUTDOOR HEAT EXCHANGER				1	
	E02 947 630	OUTDOOR HEAT EXCHANGER		1	1		
3	E02 950 301	OUTDOOR FAN MOTOR	MF	1	1		RA6N75-□□
	E02 951 301	OUTDOOR FAN MOTOR	MF			1	RA6N75-□□
4	E02 214 501	PROPELLER		1	1	1	
5	E07 070 508	PROPELLER NUT		1	1	1	
6	E02 889 290	BASE		1	1		
	E02 890 290	BASE				1	
7	E02 819 232	CABINET		1	1	1	
8	E02 819 009	HANDLE		1	1	1	
9	E02 819 521	FAN GUARD		1	1	1	
10	E02 527 506	COMPRESSOR RUBBER SET		4	4	4	4RUBBERS/SET
11	E02 784 900	COMPRESSOR	MC	1	1		PH33NPBT
	E02 951 900	COMPRESSOR	MC			1	NH44NAVT
12	E02 889 661	STOP VALVE(GAS)		1	1	1	ϕ15.88
13	E02 947 662	STOP VALVE(LIQUID)		1	1		ϕ6.35
	E02 890 662	STOP VALVE(LIQUID)				1	ϕ9.52
14	E02 889 932	ACCUMULATOR		1	1	1	
15	E02 819 650	VALVE COVER		1	1	1	
16	E02 819 245	SERVICE PANEL		1	1	1	
17	E02 819 309	THERMISTOR	RT62, RT63			1	DISCHARGE, AMBIENT
18	E02 890 383	SURGE ABSORBER	DSAR	1	1	1	
19	E02 795 374	TERMINAL BLOCK	TB2	1	1		3P
	E02 889 374	TERMINAL BLOCK	TB2			1	3P
20	E02 817 374	TERMINAL BLOCK	TB1	1	1	1	3P
21	E02 890 351	OUTDOOR FAN CAPACITOR	C2	1	1	1	4.0μF/440V AC
22	E02 951 451	DEICER P.C. BOARD				1	
23	E02 A19 340	COMPRESSOR CONTACTOR	52C		1		FIGUREⒷ
	E02 951 340	COMPRESSOR CONTACTOR	52C			1	FIGUREⒶ
24	E02 889 353	COMPRESSOR CAPACITOR	C1			1	55μF/440V AC
	E02 816 353	COMPRESSOR CAPACITOR	C1	1	1		35μF/440V AC
25	E02 819 233	BACK PANEL(OUT)		1	1	1	
26	E02 817 009	HANDLE		1	1	1	
27	E02 726 515	MOTOR SUPPORT		1	1	1	
㉘	E02 890 640	EXPANSION VALVE				1	
㉙	E02 819 493	EXPANSION VALVE COIL	LEV			1	
㉚	E02 A49 382	FUSE	F,F61	1	1	1	3.15A
㉛	E02 336 385	VARISTOR	NR61			1	
㉜	E02 948 936	CAPILLARY TUBE(TAPER PIPE)				1	ϕ4.2xϕ3.0x50
	E02 948 937	CAPILLARY TUBE(TAPER PIPE)				1	ϕ3.6xϕ2.4x50
㉝	E02 262 936	CAPILLARY TUBE				1	ϕ4.0xϕ2.4x200
	E02 527 936	CAPILLARY TUBE				1	ϕ4.0xϕ2.4x100
	E02 625 936	CAPILLARY TUBE		1	1		ϕ3.0xϕ2.0x550
㉞	E02 947 490	SOLENOID VALVE COIL	21S2			1	
㉟	E02 947 492	SOLENOID VALE				1	
㊱	E07 001 241	FUSE HOLDER		1	1		

11 RoHS PARTS LIST (RoHS compliant)

MU-A18ND

11-1. OUTDOOR UNIT

STRUCTURAL PARTS, ELECTRICAL PARTS AND FUNCTIONAL PARTS



RoHS PARTS LIST (RoHS compliant)

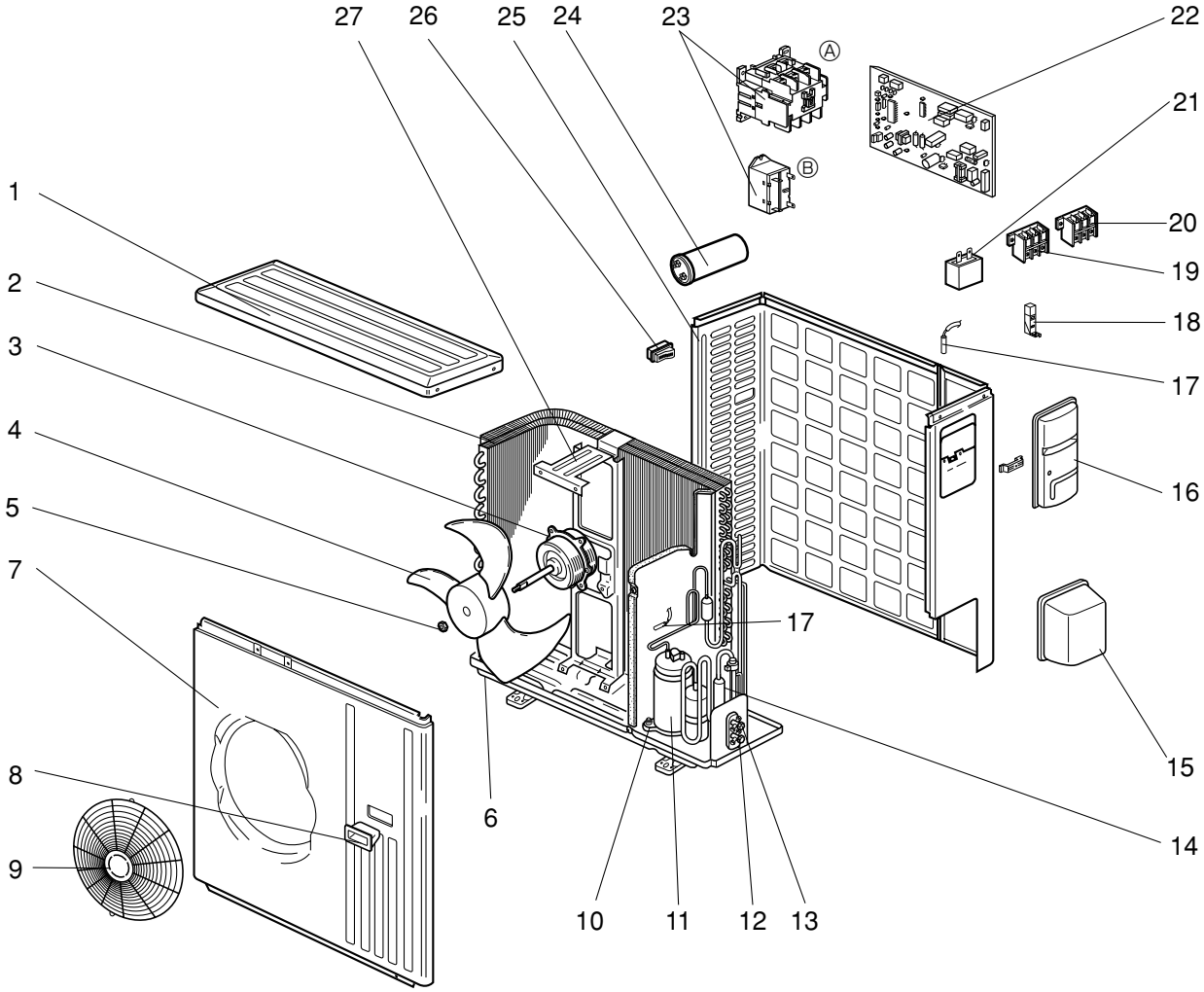
MU-A18ND
11-1. OUTDOOR UNIT
STRUCTURAL PARTS, ELECTRICAL PARTS AND FUNCTIONAL PARTS

Part numbers that are circled are not shown in the illustration.

No.	RoHS	Part No.	Part Name	Symbol in Wiring Diagram	Q'ty/unit		Remarks
					MU-A18ND - S1	MU-A18ND - S2	
1	G	E12 817 233	BACK PANEL		1		
	G	E12 A27 233	BACK PANEL			1	
2	G	E12 817 232	CABINET		1	1	
3	G	E12 817 521	GRILLE		1	1	
4	G	E12 141 501	PROPELLER		1	1	
5	G	E12 496 515	MOTOR SUPPORT		1	1	
6	G	E12 075 506	COMPRESSOR RUBBER SET		3	3	3RUBBERS/SET
7	G	E12 949 900	COMPRESSOR	MC	1	1	RH247NRAT
8	G	E12 817 290	BASE		1		
	G	E12 A27 290	BASE			1	
9	G	E12 140 661	STOP VALVE(GAS)		1	1	ϕ12.7
10	G	E12 139 662	STOP VALVE(LIQUID)		1	1	ϕ 6.35
11	G	E12 819 650	VALVE COVER			1	
12	G	E12 817 245	SERVICE PANEL		1	1	
13	G	E12 818 301	OUTDOOR FAN MOTOR	MF	1	1	RA6V60 - □□
14	G	E12 561 630	OUTDOOR HEAT EXCHANGER		1		
	G	E12 A27 630	OUTDOOR HEAT EXCHANGER			1	
15	G	E12 890 383	SURGE ABSORBER	DSAR	1	1	
16	G	E12 795 374	TERMINAL BLOCK	TB2	1	1	3P
17	G	E12 798 374	TERMINAL BLOCK	TB1	1	1	3P
18	G	E12 895 351	OUTDOOR FAN CAPACITOR	C2	1	1	3.0μF/440V AC
19	G	E12 816 353	COMPRESSOR CAPACITOR	C1	1	1	35μF/440V AC
20	G	E12 817 009	HANDLE		1	1	
㉑	G	E12 627 936	CAPILLARY TUBE		1	1	ϕ3.0×ϕ1.8×400
㉒	G	E12 A49 382	FUSE	F	1	1	3.15A
㉓	G	E17 001 241	FUSE HOLDER		1	1	

RoHS PARTS LIST (RoHS compliant)

MU-A24ND MU-A30ND
11-2. OUTDOOR UNIT STRUCTURAL PARTS, ELECTRICAL PARTS AND FUNCTIONAL PARTS



RoHS PARTS LIST (RoHS compliant)

MU-A24ND MU-A30ND
11-2. OUTDOOR UNIT STRUCTURAL PARTS, ELECTRICAL PARTS AND FUNCTIONAL PARTS

Part numbers that are circled are not shown in the illustration.

No.	RoHS	Part No.	Part Name	Symbol in Wiring Diagram	Q'ty/unit				Remarks
					MU-A24ND - S1	MU-A24ND - S2	MU-A30ND - S1	MU-A30ND - S2	
1	G	E12 819 297	TOP PANEL		1	1	1	1	
2	G	E12 890 630	OUTDOOR HEAT EXCHANGER				1	1	
	G	E12 947 630	OUTDOOR HEAT EXCHANGER		1	1			
3	G	E12 950 301	OUTDOOR FAN MOTOR	MF	1	1			RA6N75-□□
	G	E12 951 301	OUTDOOR FAN MOTOR	MF			1	1	RA6N75-□□
4	G	E12 214 501	PROPELLER		1	1	1	1	
5	G	E17 070 508	PROPELLER NUT		1	1	1	1	
6	G	E12 889 290	BASE		1	1			
	G	E12 890 290	BASE				1	1	
7	G	E12 819 232	CABINET		1	1	1	1	
8	G	E12 819 009	HANDLE		1	1	1	1	
9	G	E12 819 521	FAN GUARD		1	1	1	1	
10	G	E12 527 506	COMPRESSOR RUBBER SET		4	4	4	4	4RUBBERS/SET
11	G	E12 784 900	COMPRESSOR	MC	1	1			PH33NPBT
	G	E12 951 900	COMPRESSOR	MC			1	1	NH44NAVT
12	G	E12 889 661	STOP VALVE (GAS)		1	1	1	1	ϕ15.88
13	G	E12 947 662	STOP VALVE (LIQUID)		1	1			ϕ6.35
	G	E12 890 662	STOP VALVE (LIQUID)				1	1	ϕ9.52
14	G	E12 889 932	ACCUMULATOR		1	1	1	1	
15	G	E12 819 650	VALVE COVER		1	1	1	1	
16	G	E12 819 245	SERVICE PANEL		1	1	1	1	
17	G	E12 819 309	THERMISTOR	RT62, RT63			1	1	DISCHARGE, AMBIENT
18	G	E12 890 383	SURGE ABSORBER	DSAR	1	1	1	1	
19	G	E12 795 374	TERMINAL BLOCK	TB2	1	1			3P
	G	E12 889 374	TERMINAL BLOCK	TB2			1	1	3P
20	G	E12 817 374	TERMINAL BLOCK	TB1	1	1	1	1	3P
21	G	E12 890 351	OUTDOOR FAN CAPACITOR	C2	1	1	1	1	4.0μF/440V AC
22	G	E12 951 451	DEICER P.C. BOARD				1		
	G	E12 B19 451	DEICER P.C. BOARD					1	
23	G	E12 A19 340	COMPRESSOR CONTACTOR	52C		1			FIGURE Ⓑ
	G	E12 951 340	COMPRESSOR CONTACTOR	52C			1	1	FIGURE Ⓐ
24	G	E12 889 353	COMPRESSOR CAPACITOR	C1			1	1	55μF/440V AC
	G	E12 816 353	COMPRESSOR CAPACITOR	C1	1	1			35μF/440V AC
25	G	E12 819 233	BACK PANEL (OUT)		1	1	1	1	
26	G	E12 817 009	HANDLE		1	1	1	1	
27	G	E12 726 515	MOTOR SUPPORT		1	1	1	1	
㉘	G	E12 890 640	EXPANSION VALVE				1	1	
㉙	G	E12 819 493	EXPANSION VALVE COIL	LEV			1	1	
㉚	G	E12 A49 382	FUSE	F,F61	1	1	1	1	3.15A
㉛	G	E12 336 385	VARISTOR	NR61			1	1	
㉜	G	E12 948 936	CAPILLARY TUBE (TAPER PIPE)				1		ϕ4.2xϕ3.0x50
	G	E12 B18 936	CAPILLARY TUBE (TAPER PIPE)					1	ϕ4.2xϕ3.0x50
	G	E12 948 937	CAPILLARY TUBE (TAPER PIPE)				1	1	ϕ3.6xϕ2.4x50
㉝	G	E12 262 936	CAPILLARY TUBE				1	1	ϕ4.0xϕ2.4x200
	G	E12 527 936	CAPILLARY TUBE				1	1	ϕ4.0xϕ2.4x100
	G	E12 625 936	CAPILLARY TUBE		1	1			ϕ3.0xϕ2.0x550
㉞	G	E12 947 490	SOLENOID VALVE COIL	21S2			1		
	G	E12 B19 490	SOLENOID VALVE COIL	21S2				1	
㉟	G	E12 947 492	SOLENOID VALE				1		
	G	E12 B18 492	SOLENOID VALE					1	
㊱	G	E17 001 241	FUSE HOLDER		1	1			

Mr.SLIM™

MITSUBISHI ELECTRIC CORPORATION

HEAD OFFICE: TOKYO BLDG, 2-7-3, MARUNOUCHI, CHIYODAKU, TOKYO 100-8310, JAPAN

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